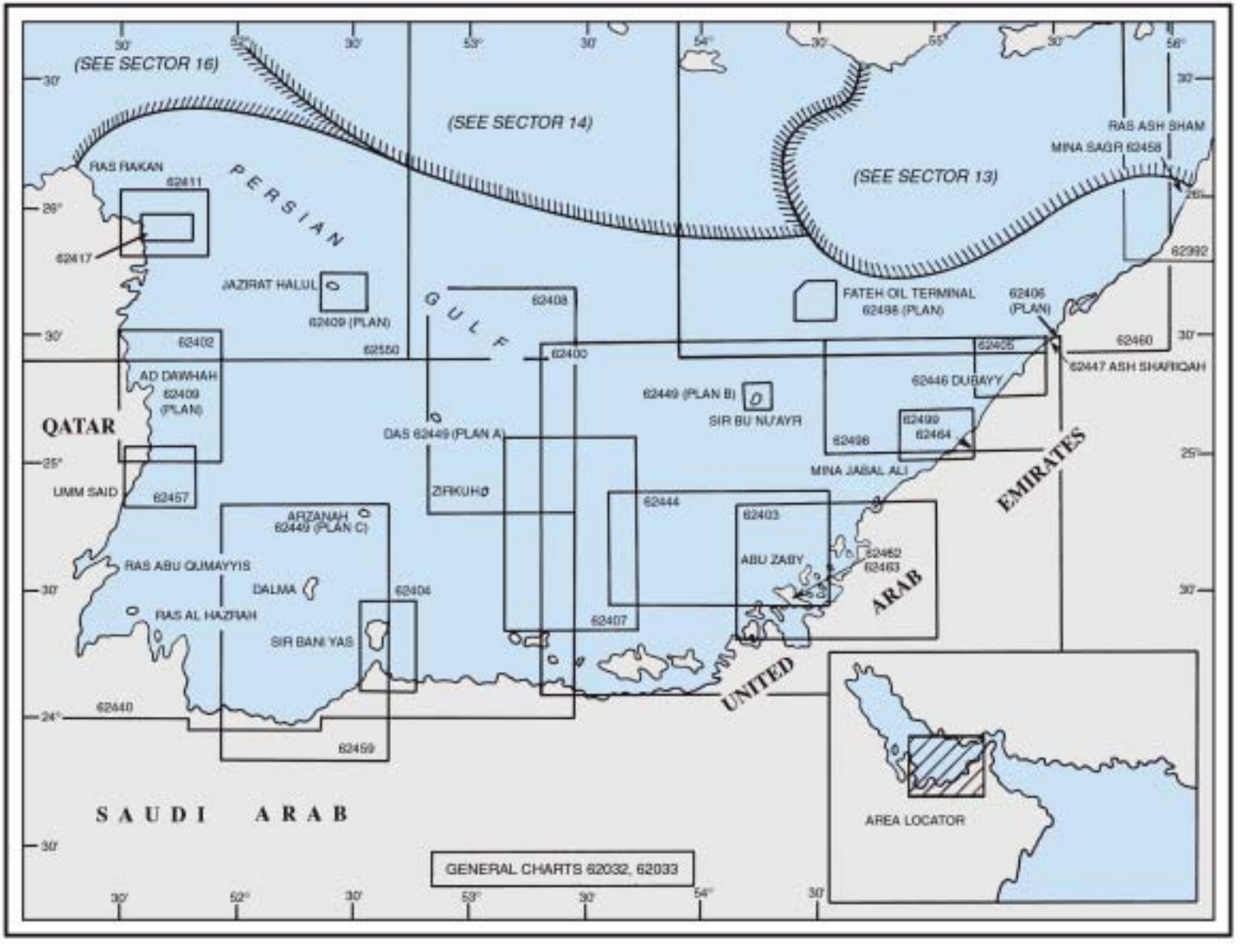
Click on "See Sector" to be hotlinked to that Sector.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR **15** — CHART INFORMATION

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SECTOR 15

THE PERSIAN GULF—RAS ASH SHAM TO RAS RAKAN

Plan.—This sector describes the coast, islands, and dangers along the S side of the Persian Gulf between Ras ash Sham and Ras Rakan. The sequence of description is SW, W, and NW from Ras ash Sham.

General Remarks

15.1 The approaches to the S coast of the Persian Gulf are generally shallow, with a few offshore reefs and islands. Inside the 40m curve, which comprises roughly the area of Great Pearl Bank, the depths are irregular because of the reefs and shoals which extend offshore for many miles and bar access to the coast, except at a few points.

The coastline is only partially surveyed, and some shoals and reefs are reported to be uncharted. Coral reefs and rocks, however, are generally discernible as dark patches, and sandbars and shoals can be easily identified as yellowish green patches near the shore area. The bottom is usually visible in depths of 6.5 to 9.2m.

In the Persian Gulf, the sea makes up quickly and is characterized by choppy waves, which are often all out of proportion to the wind force; the sea quickly subsides after a gale.

In the Strait of Hormuz, at the entrance of the gulf, the tidal current is often greatly opposed by a strong NW wind, at which time the sea becomes troublesome and breaks heavily. Currents off the coast are variable but are not strong generally.

The prevailing wind is the NW shamal, but in winter it is often interrupted by winds from varying directions. Squalls are common throughout the year. A high degree of refraction or mirage occurs along all of this coast, especially in the early morning. The land features become greatly distorted, villages sometimes appear as clumps of rounded trees, and small uncharted hillocks or dunes assume a considerable height.

The whole of the coastal strip is desert plain, with a few small, isolated hills and scattered tablelands, and is backed by alternating regions of drifting sand and patches of rock and salt flats. There are many salt creeks and tidal backwaters, the entrances of which are often changed by the wind, swell, and tidal scour.

The towns are all very similar in appearance. Because of the hard bottom in many places, anchorage off the whole E portion of the Trucial Coast is poor. On the approach of a winter shamal, which in this vicinity blows from WNW or even from W, vessels should leave their anchorage. In winter, vessels should anchor farther offshore than in summer.

Winds—Weather.—The prevailing wind during the summer months is the NW shamal, but between October and March, the shamal is often interrupted by the SE kaus, the NE nashi, or the SW suahili.

From June to September, the shamal blows over the whole area of the Persian Gulf, producing rough seas, stirring up dust clouds that affect visibility at sea, and reaching a considerable force which lasts for several days at a time.

Winter storms which pass through the gulf region are generally preceded by S winds and seas, which usually veer to NW behind the storm.

Cold fronts occasionally penetrate the area with these storms, accompanied by squalls and seas of variable direction, and are followed by a shamal. Summer winds and seas seldom vary from a NW direction.

The climate of the Arabian Peninsula as a whole is dry and hot. Average annual rainfall is minimal, except in some of the higher areas. Precipitation is erratic; long droughts are common but may be broken by intense downpours which result in flash floods.

Temperatures are moderate in winter but high in summer and are reported extremely high in the interior on summer afternoons. Evening temperatures are low enough to offer relief from oppressive daytime heat.

Relative humidity at coastal locations is high throughout the year; it is greatest in the early morning and lowest in the afternoon, except at some places on the coast, where the afternoon sea breezes bring moist and cooler air over the land area.

Tides—Currents.—The currents in the Persian Gulf have a predominantly counterclockwise circulation throughout the year. In that part of the gulf covered by this sector, there are sometime strong currents in the SE part which set between NE and E, especially in January and in April, May, and June.

Their speed has been observed to be from 0.4 to 0.8 knot in January, and from 0.6 knot to 1.7 knots in April. Through the Strait of Hormuz there is a distinct inward flow from the Gulf of Oman during the Southwest Monsoon and a slight outward flow during the remainder of the year.

In the latter period, some water continues to flow into the Persian Gulf, but these currents trend more to the N side of the gulf. Any notable local peculiarities in tides and currents are described with the related features.

Caution.—Several offshore oilfields are located within the area covered by this sector, some offering offshore petroleum berths and some lying within charted limits or restricted areas; all are best seen on the appropriate chart.

Caution should be exercised when navigating within the vicinity of these oilfields as production platforms, submarine pipelines, and various other hazards, both above and below-water, may be present.

It has been reported that some charted oil production platforms in the Persian Gulf may have been removed.

In many cases, all that remains of the platform are pipes extending from 3.1 to 6.1m above the waterline; these pipes do not show up well on radar and are a hazard to navigation.

An IMO-approved Traffic Separation Scheme exists in the waters covered by this sector and is best seen on the appropriate chart.

Ras ash Sham to Abu Zaby

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15.2 **Ras ash Sham** (26˚04'N., 56˚05'E.) rises gradually to the summit of a mountain, about 705m high, which has a notch and is a good mark from SW and N. The coast to Abu Zaby is low and sandy.

In clear weather, the mountains of Ruus al Jibal are visible until the vessel has passed Dubayy, about 64 miles SW of Ras ash Sham. The terrain consists of stony desert, with small detached groups of volcanic hills; on the coast are low cliffs.

Between Ras ash Sham and the town of **Ash Sham** (26˚02'N., 56˚05'E.), the coast is fringed by shoals and backed by a cultivated plain. There is a prominent hill about 1 mile S of Ash Sham, which from S appears to have a peaked summit.

Depths are very uneven W of Ash Sham, varying from 18.3 to 36.6m from 0.5 to 3 miles offshore.

Mina Saqr (25˚59'N., 56˚03'E.)

World Port Index No. 48264

15.3 Mina Saqr is an artificially-constructed harbor with deep water. The port limits include Khawr Khuwayr (Hanna).

Winds—Weather.—See paragraph 15.1 for further information.

Tides—Currents.—The tidal rise here is 1.4m.

Depths—Limitations.—Loaded vessels up to 45,000 dwt, with a maximum length of 225m and a maximum draft of 11.5m, can be accommodated here.

Eight deep-water berths, No. 1 through No. 7 and No. 9, have lengths of between 150 to 200m and depths alongside of 12.2m. The inner approaches are dredged to a depth of 12.2m. The main basin is dredged to a depth of 12.2m.

Aspect.—The breakwaters protecting the port are reported to be radar conspicuous. There are two prominent silver-grey silos in the vicinity of the harbor. Two conspicuous chimneys rise from the cement factory 1 mile ESE of the harbor area.

A prominent flare stack stands near the coast 2 miles S of the harbor entrance. It was reported to be visible for some distance offshore. Two oil tanks stand close S of the flare stack.

A sector light, leading through the harbor entrance, stands on the S breakwater.

A red warning light, which flashes in the vicinity of the sector light, indicates helicopters are operating from a nearby heliport.

Pilotage.—Pilotage is compulsory and is available 24 hours. Pilot boards in position 26˚01.0'N, 56˚02.5'E, 1.2 miles N of the Fairway Buoy. The vessel's ETA should be sent to the Harbormaster through Bahrain (A9M) 72 hours and 24 hours in advance, stating the vessel's length, draft, and details of cargo. Contact Port Control on VHF channel 16 at least 2 hours in advance of arrival at the approach buoy.

Anchorage.—Anchorage is available, in depths of 20 to 30m, over a bottom of fine sand in a charted area centered 2 miles NW of the harbor entrance. Vessels at anchor should maintain a continuous listening watch on VHF channel 16.

Caution.—Pipelines, best seen on the chart, extend N and NW from the shore close SW of the Khawr al Khuwayr.

Hulaylah Oil Terminal (25˚59'N., 55˚56'E.), lying about 6 miles W of Mina Saqr, consists of a storage tanker moored to a Single Point Mooring buoy.

A submarine pipeline connects the SPM to Saleh Oil Field to the NW, and to the shore. The depth of water at the buoy is 30.5m. There is no restriction on the length of vessels using the terminal. Vessels of 300,000 dwt displacement are the largest ships accepted at the terminal unless, special arrangements are made with local authorities.

Pilotage is by the mooring master. ETA should be sent 72, 48, and 24 hours in advance. The 72-hour message should contain the following information:

1. Vessel's name.
2. ETA.
3. Estimated arrival draft fore and aft.
4. Other information as required by the operators.

Changes in ETA of more than 1 hour are to be reported. When within range the terminal should be contacted on VHF channel 16.

An anchorage area, within a circle of radius 0.5 mile, is established 3 miles W of the SPM. The mooring master boards at the anchorage.

Caution.—A marine farm area, best seen on the chart, is located approximately 4 miles S of the terminal.

Rams (25˚53'N., 56˚03'E.), a town located 5 miles SSW of Mina Saqr, lies on the SE side of a lagoon, the entrance of which is obstructed by a bar on which the sea breaks. The lagoon is used by dhows.

The coast between Rams and Mina Saqr is fronted by a bank with numerous sandy shoals, whose positions probably change under the effect of the shamal. Vessels should not close the coast in depths of less than 11m. Rams can be identified by a round fort at the SW end of town and a minaret at the NE end of town.

The lagoon gives access to a creek which trends S towards Khawr Ras al Khaymah.

Ras al Khaymah (25˚48'N., 55˚57'E.), located about 7 miles SSW of Rams, stands on the W side of Khawr Ras al Khaymah.

15.5 **Muayrid** (Marid) (25˚48'N., 55˚58'E.) is a town located close NE of Ras al Khaymah. The sandspit on which Ras al Khaymah stands has been breached between the two towns to provide access to Khawr Ras al Khaymah.

In the vicinity of Ras al Khaymah, the coastal plain is about 6 miles wide, but S this width increases rapidly so that when seen from N the town appears to be located where the mountains end.

South of Ras al Khaymah, the N end of the high, red sandhills affords a guide to the locality.

Depths—Limitations.—The channel between the training walls was dredged to a depth of 3m. Vessels drawing up to 3.3m, with a maximum length of 46m, have entered the harbor at HW, but entry should not be attempted without local knowledge. There are no official pilots.

New Customs Quay, 91m in length, with a depth of 5m alongside, is located at the S end of the entrance channel, on its E side. Fish Quay lies on the W side.

Aspect.—A prominent radio tower stands on the N side of Khawr Ras al Khaymah. A hotel, which is conspicuous, is situated about 2 miles S of the town.

A prominent tower stands about 1 mile SW of the town; another prominent tower stands close ESE of the hotel.

The entrance channel into the inlet lies between two training walls, 183m apart, which extend 0.4 mile NNW from the coast.

Anchorage.—Anchorage can be taken near the lighted buoy moored 3 miles WNW of the training walls. Vessels anchor. in a depth of 10m, with the head of the E training wall bearing 120˚, distant 2.5 miles, poor holding ground.

Small vessels anchor 2 miles W of the training walls, in a depth of 6.1m, good holding ground, sandy bottom. This anchorage is preferred during a shamal.

Caution is necessary on approaching both anchorages due to detached shoals, which are best seen on the chart..

Jazirat al Hamra (25˚43'N., 55˚47'E.) lies close off the mainland. The town of Hamra is located on Jazirat al Hamra, which from seaward does not appear as an island. A light is shown from Ras Abu Ahmad on the NW side of the entrance channel.

There is a fort with several towers in the town; close to the fort is a high square tower. Another slender tower rises at the W end of town. Landing on the shores outside the inlet is difficult, except during good weather.

15.6 Khawr Umm al Qaywayn (Ahmed Bin Rashid) (Umm Al Quwain) (25˚34'N., 55˚36'E.) (World Port Index No. 48272) is an inlet comprising an extensive backwater in which are several low islets. Extensive banks, with drying patches, extend seaward from Jazirat as Siniyah and from the peninsula of Umm al Qaywayn.

Between these two banks is a narrow channel leading to Khawr Umm al Qaywayn. It is entered between the W extremity of Jazirat as Siniyah and the peninsula of Umm al Qaywayn.

Jazirat Mallah, separated from Jazirat Siniyah by salt pans covered at HW, extends 5 miles NE. Burj Mallah, the SW of two conspicuous rectangular towers, stands near the SW end of Jazirat Mallah. A dangerous wreck lies 7 miles N of the entrance to Khawr Umm al Qaywayn.

The peninsula of Umm al Qaywayn, containing the town of the same name, is connected with the mainland W of it by a narrow isthmus about 0.1 mile wide. A square fort near the center of the town has two round towers and a flagstaff. A conspicuous minaret stands close SW of the fort. Bakhut Tower, conspicuous from N and WNW, stands on the E side of the peninsula. West of the peninsula are three other towers, of which Mashsum Tower is conspicuous.

A conspicuous square water tank stands on a hill 2 miles SSW of Umm al Qaywayn. The approach channel, dredged to a depth of 10m over a width of 100m, increasing to a width of 160m at the S end, leads S across the coastal bank between several drying patches.

There is a deep-water wharf providing 845m of berthing space at four berths for vessels up to 15,000 dwt, with a maximum length of about 210m and a maximum draft of 9.8m. Depths alongside the berths range from about 5.5 to 10m. A separate wharf provides 800m of berthing space for coastal traffic. Pilotage is not available, but the Harbormaster will meet vessels upon request.

Anchorage outside the inlet may be obtained, in depths of 11 to 13m, about 0.7 mile NW of Mahsum Tower. In winter, vessels should anchor farther offshore. The holding ground of sand and shell is poor.

Caution.—It was reported (1994) vessels should enter the port only at high tide and slack water. Currents at the intersection of the dredged channel and the turning basin may cause a vessel to be set onto the deep-water wharf.

Landing on the shores outside the inlet is usually difficult except in fine weather. The dangerous wreck of a barge, sometimes visible at LW, lies close offshore about 0.3 mile W of Umm al Qaywayn.

Al Hamriyah (25˚29'N., 55˚30'E.) is a village about 7 miles SSW of Umm al Qaywayn. The tower of a new fort, with a flagstaff and a white minaret, are conspicuous.

There is a creek at the S end of the village which connects at HW with Khawr Ajman. The creek was being dredged to a depth of 6.5m. The harbor within was dredged to 5m. An unlighted mooring buoy is located 10 miles offshore NNW of Al Hamriyah.

15.7 Al Hamriyah LPG Terminal (25˚28'N., 55˚29'E.) (World Port Index No. 48274), entered close SW of the creek, is devoted to liquefied gas products.

Depths—Limitations.—The harbor is approached via a 3-mile long buoyed channel dredged to a depth of 15m.

Vessels up to 83,000 cu.m, with a maximum draft of 12.6m and a maximum length of 230m, can be accommodated. Vessels berth port side-to.

Aspect.—A light is shown from each breakwater head. A directional sector light is located near the inner end of the S breakwater. The LPG berth, comprising a berthing platform flanked by berthing and mooring dolphins, is situated on the S side of the basin.

Pilotage.—Pilotage is compulsory. Pilots board 3 miles NW of the dredged harbor entrance channel. Vessels are moored in daylight only, but are unmoored and loaded at any hour, weather and other circumstances permitting.

Vessels should send their ETA, including their draft, 72 hours prior to arrival. confirmation should be sent 48 hours and 24 hours prior to arrival. Changes of 2 hours in ETA should be reported.

Regulations.—Vessels should contact the terminal on VHF channel 16 when within range, and are required to maintain a continuous watch on this channel when at a berth, at anchor, or underway.

Anchorage.—Anchorages, with a radius of 1 mile, have been established from the center of the harbor entrance, as follows:

1. Berth A (for hazardous cargo)—9 miles WNW.
2. Berth B—6 miles WNW.
3. Berth C—3.5 miles WNW.

The anchorages show depths of 15.5 to 28.5m, bottom quality not stated.

15.8 Ajman (25˚25'N., 55˚26'E.), on the S side of the entrance to Khawr Ajman, has a fort and several minarets.

Berig al Mai, 0.5 mile SSW of the fort, is a conspicuous watchtower.

The entrance to Khawr Ajman lies between two training walls, marked by lights, and is encumbered by a bar over which the depth is variable. Pilotage is compulsory and is available with 48 hours advance notice. The pilot boards 3 miles NW of the breakwater. The port authority controls vessel movement on VHF channel 6.

The entrance channel and the depths alongside Berth 1 through Berth 5 have been dredged (1998) to a depth of 8m.

Shallow water was reported to lie on the inside of the channel bends; a shoal patch of 4m was found in the inner harbor. The sea breaks heavily on the bar with an onshore swell.

Within the bar, the channel forks into several branches, all available to local small craft. Irregular ridges of sand, shell, and dead coral, with depths of less than 10m, lie as far as 2.5 miles offshore in the vicinity of Khawr Ajman.

The holding ground is poor and ships should not anchor in depths of less than 20m, except in calm weather.

Al Hayrah (25˚23'N., 55˚24'E.), a village about 3 miles SW of the fort at Ajman, has a prominent minaret, barracks, a water tower, and radio masts, all visible from seaward.

Sharjah Offshore Terminal (Hamriyah) (25˚35'N., 55˚24'E.)

World Port Index No. 48271

15.9 Sharjah Offshore Terminal consists of an SPM designed for vessels of about 80,000 dwt. The maximum draft allowed is 16.0m on departure. The Mooring Master may allow vessels in excess of 80,000 dwt to moor, provided the vessel has first obtained written permission from the company.

Pilotage.—Vessels to be moored at the loading berth will be boarded by a Mooring Master about 3 miles due N of the loading berth. A Mooring Master will be provided by the company and vessels will not be allowed to approach or depart from the loading berth without the Mooring Master on board.

Regulations.—Vessels are moored in daylight hours only, but are loaded and unmoored at any hour, weather and other circumstances permitting. The vessel's ETA should be sent 72 hours, 48 hours, and 24 hours in advance through Bahrain (A9M). Any changes in ETA of more than 2 hours should be reported.

When within VHF range, contact should be made on VHF channel 16 and a continuous listening watch maintained.

Anchorage.—The anchorage area for vessels awaiting the loading berth at Sharjah Offshore Terminal is centered 3 miles N of the loading berth.

Anchoring is prohibited inside a radius of 2 miles from the SPM and within a distance of 2 miles on each side of the pipeline.

The exposed position of the SPM requires a ship berthed at it to be kept at immediate readiness for sea.

Ash Shariqah (Sharjah) (Mina Khalid) (25˚22'N., 55˚23'E.)

World Port Index No. 48270

15.10 Ash Shariqah consists of Khawr ash Shariqah, entered about 2 miles NE of the main harbor, and Mina Khalid, the main deep-water facility. Khawr ash Shariqah is used by smaller vessels only.

Winds—Weather.—See paragraph 15.1 for further information.

Tides—Currents.—The tidal rise is reported to be 1.2m. A strong set, which flows SW on the flood and NE with the ebb, will normally be experienced at the harbor entrance.

Depths—Limitations.—The approach channel to Mina Khalid was dredged to a depth of 11.5m, while the harbor is dredged to a depth of 8.5 to 10.5m. Thirteen berths, with depths of 8.5 to 10.5m alongside, are available. Berth 1A, Berth 1, and Berth 2, which are the container berths, have a total length of 575m. Berth 7, the ro-ro berth, is 220m long.

The tanker berth, a T-head with breasting dolphins on either side, is situated inside the main breakwater.

Vessels up to 60,000 dwt, with a maximum length of 230m and a maximum draft of 9.5m, can be accommodated.

The entrance channel to Khawr Ash Shariqah is dredged to a depth of 5.5m. Several small wharves are available, with alongside depths of 2.7 to 4m.

Aspect.—Breakwaters enclose the entrance channels of both Khawr Ash Shariqah and Mina Khalid. A group of conspicuous chimneys associated with a power plant stands near the shore at the S end of Mina Khalid, with a water tower standing about 0.4 mile NNE.

Several prominent radio towers are located throughout the area. The city of Ash Shariqah contains several minarets, towers, and a fort, but they are overshadowed by tall, modern buildings.

Pilotage.—Pilotage is compulsory, and may be obtained from a white and orange vessel at the boarding ground located about 2 miles NW of the W breakwater near the fairway buoy. Vessels arriving between 2400 and 0600 should radio their request for pilotage before 2200. Vessels should radio their ETA at least 72 hours in advance, confirming 48 hours and 24 hours prior to arrival. Entering vessels are requested to remain seaward of the entrance buoy if awaiting the pilot, anchoring if necessary. Sharjah Port Control should be contacted via VHF channel 16 when within range.

Anchorage.—Anchorage is available seaward of the entrance buoy and clear of the channel. The holding ground is bad, being hard sand, shells, and dead coral. In the winter, vessels are advised to anchor, in depths of at least 12m, and not less than 10m in summer. A limited number of vessels may anchor in the harbor with permission of the port operator.

Directions.—The approach channel to Mina Khalid is well-marked. The local authorities should be contacted before attempting to enter Khawr Ash Shariqah.

Al Khan (25˚20'N., 55˚21'E.) is a village located on the N side of the entrance to Khawr al Khan. The village is an easily-distinguished landmark, as the surrounding area is very low and swampy. There are several towers and a minaret in the

Dubayy (Mina Rashid)

village. The entrance to the inlet leads over a bar and into a basin, about 1.8m deep, which is used by fishing craft.

Dubayy (Dubai) (Mina Rashid) (25°16'N., 55°18'E.)

World Port Index No. 48275

15.11 Dubayy is one of the busiest ports in the United Arab Emirates, and is considered to be the commercial capitol of that nation. The harbor is divided into three sections.

Khawr Dubayy, a narrow river, extends 3 miles E, from a point just N of the northernmost breakwater protecting the main deep-water harbor, to a bridge.

Above the bridge, the channel spreads into several swampy lagoons. Mina Rashid, comprising the main cargo terminals, is the N of the enclosed basins; Dubai Drydock Harbor is the S of the two. Both are best seen on the appropriate chart.

Winds—Weather.—See paragraph 15.1 for further information. The shamal, blowing from WNW and NW, may raise a rough sea at the anchorage.

Tides—Currents.—The tidal rise at springs is 1.2 to 1.8m, while the neap rise is 0.9 to 1.2m. Currents here are generally weak and tend to follow the channel, but cross-channel currents of up to 1.7 knots have been reported (1994)

Depths—Limitations.—Mina Rashid is formed by two large basins, separated by a broad mole which is quayed on both sides, and is protected by two breakwaters. The least charted depth on the range line through the entrance is 13m.

There are depths from 10 to 13m in the harbor, but a bank, with depths of 6 to 10m, extends SW from the NE end of the outer basin; a wreck, with a depth of 2.7m, lies in the E corner of the outer basin.

Within the harbor are 37 deep-water berths, with alongside depths of 8 to 13m.

Vessels with drafts up to 12.8m can berth at the Container Terminal. Vessels with drafts up to 11.5m can berth at the general cargo berths. Vessels over 260m in length may berth at the Harbormaster's discretion.

The Petroleum Jetty, situated near the root of the main breakwater, can accommodate vessels up to 260m in length, with a maximum draft of 11.3m. Vessels with a draft of 11.6m can use the jetty at HW with the permission of the Harbormaster.

Dubayy Drydock Harbor was dredged to a depth of 11.5m. A directional sector light leads through the entrance to this harbor.

Several shoal patches are charted in the approaches to Khawr Dubayy and are best seen on the appropriate chart.

The fairway has a least depth of 4.9m over a tunnel located about 0.1 mile SE of the channel entrance; the channel is dredged to a depth of 5.5m to a bridge with a moveable center span.

Local authorities should be contacted for details on bridge regulations and the channel above the bridge. Caution should be exercised when transiting this channel, as it is subject to silting. The buoyage within the fairway is moved as necessary to mark the shifts within it. Several cable areas extend across the channel and are best seen on the chart.

Aspect.—The city of Dubayy proper lies on the S side of the Khawr Dubayy, while its suburbs extend to the NE and SW along the coast on either side of the khawr. Reports indicate that many of the older landmarks in the city have been obscured by new buildings.

A conspicuous tower stands near the coast about 0.5 mile ENE of the entrance to Khawr Dubayy. Two radio towers stand, 0.9 mile and 1.2 miles, respectively, ESE of the entrance to Khawr Dubayy; two water towers stand 0.8 mile SSE and 1.2 miles E, respectively, of the same point.

Several lighted minarets are located within 0.5 mile of Khawr Dubayy. A conspicuous flour mill stands 1 mile SSW of the entrance to Khawr Dubayy.

Pilotage.—Pilotage for Mina Rashid and Dubayy Drydock Harbor is compulsory. Pilots will board from a launch or tug about 1 to 1.5 miles N of Mina Rashid harbor entrance, although it has been reported that pilots will board 0.5 mile N of the entrance. It has also been reported (1994) that pilots board by air about 5 miles from the breakwaters.

The vessel's ETA should be sent 72 hours and 24 hours in advance, including the following information:

1. Draft.
2. LOA.
3. The presence of any explosives or hazardous cargoes aboard.

Vessels are requested to maintain a listening watch on 2182 kHz from at least 24 hours before ETA, and on VHF channel 16 from 12 hours before ETA. Berthing instructions should be requested from the Signal Station on VHF channel 16.

Anchorage.—Anchorage may be obtained, in depths of 12 to 20m, sand and shells, poor holding ground, in the charted areas off Dubayy.

Vessels approaching the port and failing to establish VHF contact should anchor about 2 miles off the port entrance.

Limited anchorage space is available, within the breakwaters of Mina Rashid, with the approval of Dubai Port Control.

Directions.—Lights are shown from the various breakwaters. A set of range lights, in alignment bearing 182˚, marks the channel to Mina Rashid.

Caution.—It has been reported (1996) that shoal water lies as close as 23m to the alignment of the 182˚ range.

Numerous vessels generally lie at anchor SW of the harbor approach buoy.

15.12 Umm as Suqaym (25˚10'N., 55˚13'E.), a village about 8 miles SW of Dubayy, has two prominent minarets. There is a yacht and fishing harbor protected by breakwaters, with a tower and flagstaff standing near the root of the E breakwater.

A wreck, marked by a lighted buoy close NW of it, lies 10.5 miles offshore NW of Umm as Suqaym.

Jabal Ali (25˚02'N., 55˚07'E.), a 67m high, flat-topped hill, is topped by three radio masts marked by obstruction lights.

Three large, dish-shaped aerials are located on the W side of the hill. Eight 40m high smokestacks of a power station rise 2 miles N of the hill.

Cooling water intakes, connected to the power station by a submarine pipeline, extend up to 0.3 mile offshore.

A cluster of three buildings, located 4 miles SW of the hill, is the control center for a firing range.

Mina Jabal Ali (25˚01'N., 55˚03'E.)

World Port Index No. 48276

15.13 Mina Jabal Ali is a large artificial harbor and industrial harbor located about 21 miles SW of Dubayy.

Winds—Weather.—See paragraph 15.1 for further information. During the morning and evening hours, light SE winds prevail, but the wind usually veers to the NW and freshens to force 4 to 5 by noon. Early morning fog is likely from November to March.

Tides—Currents.—The tidal rise here is 1.1m. Tidal currents, in combination with wind-driven currents, may cause cross-channel sets up to 1.5 knots, although a rate of 3 knots has been reported (1998).

Depths—Limitations.—The approach channel was dredged to a depth of 14m (2000) as far as the tanker berth, located just inside the harbor entrance; a depth of 13.7m has been reported (1996) outside the breakwater. Depths of less than 14m have been reported inside the edges of the dredged channel.

The harbor is divided into two basins. The outer basin, comprising Berth 1 through Berth 17, has been dredged to 14m; the inner basin, comprising Berths 18 through Berth 66, has been dredged to 11.5m.

Tanker/LPG Berth No. 1, with a dredged depth of 14m, lies close inside the entrance on the NE side of the harbor; vessels berth starboard side-to. The maximum permitted draft is 14.0m at HW.

Tanker Berth No. 3, Tanker Berth No. 5, and Tanker Berth No. 7 have a dredged depth of 14m alongside; vessels berth starboard side-to. Vessels with a maximum length of 230m and a maximum draft of 13.2m can be accommodated.

The Star Energy Resources Tanker Berth, located at Berth 8 and Berth 9, can simultaneously accommodate two vessels with a maximum length of 255m.

The Chemical Tanker Berth, located at Berth 51, can accommodate a vessel with a maximum draft of 10.2m.

Dry bulk, ro-ro, container, and general cargo vessels are handled at various berths throughout the harbor.

Aspect.—Jabal Ali and the power station close-by it, which have already been described in paragraph 15.12, are conspicuous.

A conspicuous building fronted by a marina stands about 0.2 miles W of the port. The harbor control tower, about 50m high, lies on the SW side of the port, with two silos close NE of it. All three structures are conspicuous.

Pilotage.—Pilotage is compulsory for all vessels of 150 nrt or over with the exception of warships, pleasure craft, MENAS tenders, local craft and tugs, dredgers, and barges. Pilotage is available 24 hours, except for LNG carriers and vessels over 300m long, when it is available only during daylight hours. The pilot boarding ground is located about 2 miles SE of Jebel Ali Light Float, although it has been reported that pilots also board near the fairway buoy (1994) and near the breakwater (1998).

Vessels should send their ETA 48 hours and 24 hours in advance; a corrected ETA should be sent if changes o fmore than 1 hour occur.

Vessels requiring a pilot should contact Jabal Ali Port Control on VHF channel 69 at least 2 hours prior to arriving at the pilot boarding place.

Before arrival, vessels should inform the Port Control of the following information:

1. Vessel's name.
2. Port of registry.
3. Master's name.
4. GRT.
5. Length.
6. Draft.
7. Cargo to discharge or load.
8. Pilot boarding arrangements.
9. Number of crew.
10. Health information.
11. Last port of call.

Vessels should confirm their ETA when within VHF range, and again at least 2 hours prior to arrival.

Regulations.—Vessels calling at this port are required to be fitted with a fully-perational radar; a VHF set equipped with VHF channels 11, 14, 16, 67, and 69; sufficient propulsion and deck machinery; adequate moorings to safely secure the vessel; efficient signaling equipment; fully operational tachometer, rudder, and helm indicators; an efficient mooring stations communications system; and an efficient anchor windlass and ground tackle.

If the above requirements cannot be complied with, the harbormaster should be advised of the vessel's situation through Jabal Ali Port Control prior to arrival. Within the limits of the port, inbound or outbound vessels shall have right of way over all other shipping.

Vessels may not pass in the dredged channel.

Anchorage.—Anchorage is available in a charted area centered about 3 miles SW of Jabal Ali Light Float, in depths of 15.9 to 23.5m, poor holding ground.

Anchorage is prohibited within the vicinity of an untrenched natural gas pipeline charted N of the port.

Caution.—Many small fishing vessels operate in the vicinity of the light float.

Spoil ground areas, best seen on the chart, should be avoided.

15.14 Dawhat al Jabajib (24˚59'N., 55˚02'E.) is a shallow coastal indentation with a foreshore containing some isolated rocks which show up at LW against a featureless background.

The coast in the area is very low and intersected by many creeks and mangrove swamps.

From **Khawr Ghanadah** (24˚50'N., 54˚45'E.), a foul and shallow inlet, to Abu Zaby (Abu Dhabi), about 30 miles SW, there is a succession of inlets, mostly connecting with each other and separated from the sea by narrow strips of sand.

An extensive reef extends as far as 6 miles offshore along this stretch of coast to Abu Zaby. Depths of 9.1 to 11m exist close seaward of the reef, but soundings are very uneven.

The wrecks of two barges, with a depth of 12m and marked by a lighted buoy, lie 12 miles NNW of Ras Gantut.

Caution.—A powerful radio transmitter has been established about 1 mile SW of Ras Hasyan; it transmits daily in the 1470 to 1490 kHz band.

Fire damage could occur in shipboard electronics equipment as a result of radio-frequency propagation up to a distance of about 4.5 miles from the station. It is advisable to keep at least 6 miles from the station.

Abu Zaby (Abu Dhabi) (Mina Zayid) (24˚30'N., 54˚20'E.)

World Port Index No. 48278

15.15 Abu Zaby, located on Abu Zaby Island, lies about 45 miles SW of Mina Jabal Ali. Besides serving as a port, the city also functions as the capital of the United Arab Emirates.

Winds—Weather.—See paragraph 15.1 for further information. The port is open to the shamal, blowing from the N and NW.

Tides—Currents.—Tides here have a maximum spring range of 2m, while the neap range is 0.1m. Tidal currents in the area tend to follow the coast, with spring rates of less than about 1 knot.

Strong tidal currents have been reported within Mina Zayid and the approach channel; rates of up to 4.5 knots occur within the dredged fairway, with the current setting cross-channel.

Depths—Limitations.—The harbor approach channel, extending about 5 miles NW of the island, is dredged to a depth of 13m. Just within the breakwaters, a secondary fairway, dredged to a depth of 11m, joins the main channel and continues to the SE, leading to an offshore supply base within Khawr al Bighal. The main fairway turns sharply S at the junction of the two channels and leads to Mina Zayid.

Mina Zayid is dredged to a depth of 13m throughout its NE portion, while the SE end of the harbor basin is dredged to a depth of 15m. The NW spur of the harbor was dredged to a depth of 13m.

There are 21 berths available, handling container, cement, grain, and bulk cargoes. Tankers are accommodated at the SE end of the harbor, while ro-ro vessels med-moor to the breakbulk berths to work cargo. Vessels with a draft greater than 11m must take the tide into account when berthing.

Berth limitations are shown in the table below:

Berths	Depth	Maximum draft	Remarks
1-4	13-15m	12.5m	Container berths
5	13m	12.5m	Ro-ro berth
6-9	13m	12.5m	General cargo berth
10-13	6m	5.5m	General cargo berth
14-19	13m	12.5m	General cargo berth
20-21	15m	12.5m	Tanker berth

Dhow Harbor is approached through a buoyed channel leading N of a detached breakwater, the N end of which is located about 2 miles SW of Mina Zayid harbor entrance. Both the channel and basin are dredged to a depth of 6m.

Sea Wing Access Channel, marked by lighted buoys, branches off the main channel, is dredged to 6m, and leads to two offshore oil field supply bases.

Aspect.—Khawr al Bighal (24˚30'N., 54˚27'E.), the natural channel around which the port of Abu Zaby is formed, is typical of the salt creeks found along this coast.

Above the harbor, Khawr al Bighal separates into several arms, between which are some very low lying islands, along with extensive sand and coral flats. The land within Khawr al Bighal is subject to inundation during spring tides or NW winds. The island of Abu Zaby is fronted by an extensive detached breakwater.

A conspicuous multi-storied building stands on **Ras al Batin** (24˚27'N., 54˚19'E.), the S extremity of the island. Other conspicuous objects, positioned relative to the building mentioned above, are:

1. A prominent lattice radio mast, showing obstruction lights, with an elevation of 94m, about 1 mile NE.
2. A cylindrical water tower, standing prominently on top of a sandy hillock, about 2 miles ENE.
3. A conspicuous tapered lattice radio mast, painted in red and white stripes and showing obstruction lights, with an elevation of 130m, about 2 miles ENE.
4. A conspicuous silver onion-shaped water tank, with an elevation of 30m, about 4 miles NE.
5. At the power station, a prominent line of numerous silver-colored metal chimneys, about 5 miles NE.
6. A conspicuous control tower standing at the S end of the harbor about 0.5 mile NE of the power station.

It was reported (1997) that many of the above landmarks have become obscured by numerous high-rise apartment and hotel buildings.

Pilotage.—Pilotage is compulsory and may be provided from the approach channel entrance buoy. It has been reported (1998) that the pilot boards about 2 miles from the breakwater.

Vessels should send an ETA at the Fairway Buoy to Port Control 72 hours, 48 hours, and 24 hours in advance through Bahrain (A9M). They should confirm the ETA 6 hours in advance on VHF. Vessels should then establish contact with Port Control on VHF channel 16, 2 hours before arrival. When approaching the port, vessels should contact the pilot vessel on VHF channel 67.

Vessels transiting the waters of the port are required to contact Abu Dhabi Port Control (VHF channel 16) or Addcap Base (VHF channels 11 or 13) when passing certain reporting points. See the accompanying table for details.

Abu Zaby Vessel Traffic Service	
Reporting Points	**Report to**
Inbound	
Before arrival	Abu Dhabi Port Control
When passing position 24˚40.8'N, 54˚15.0'E	Addcap Base
When passing Lighted Buoy No. Z23 and Lighted Buoy No. Z24 to enter Mina Zayed Channel	Abu Dhabi Port Control and Addcap Base
When leaving Mina Zayed Channel and entering Sea Wing Channel	Abu Dhabi Port Control and Addcap Base
Outbound	
Before entering Sea Wing Channel	Addcap Base
Before entering Mina Zayed Channel	Abu Dhabi Port Control
When leaving Sea Wing Channel and entering Mina Zayed Channel	Abu Dhabi Port Control and Addcap Base
When passing position 24˚40.8'N, 54˚15.0'E	Addcap Base

Anchorage.—Anchorage may be obtained, in a depth of about 18m, within the designated anchorage shown on the chart between Abu Dhabi Lighted Buoy (24˚40.1'N., 54˚14.8'E.) and the entrance to the dredged channel. The buoy is equipped with a racon. The anchorage is exposed, but the holding ground is fairly good.

Caution is necessary when anchoring in the area as the quality of the holding ground is not known.

Directions.—From a position about 5 miles E of **Sir Bu Nu'yar** (25˚15'N., 54˚12'E.), steer to pass E of "Abu Dhabi Lighted Buoy"; then steer S toward **Fairway Lighted Buoy** (24˚39'N., 54˚14'E.) and follow the buoyed channel.

Caution.—Keep in mind the strong tidal currents within the dredged channel, particularly when negotiating the turn into Mina Zayid.

Submarine pipelines and cables are charted just SW of the channel to Dhow Harbor, and across the S end of the 11m deep secondary channel leading SE from the entrance to Mina Zayid to Umn an Nar.

15.16 Umm an Nar (24˚27'N., 54˚29'E.) (World Port Index No. 48279) is situated at the SE end of Abu Zaby Island and consists of two petroleum berths, with mooring and breasting dolphins, connected to the shore by a causeway.

A channel, marked by leading lights and lighted buoys, leading to the facility is 160m wide and dredged to a depth of 11m.

Vessels up to 30,000 dwt, with a maximum length of 170m, a maximum draft of 9.2m, and a maximum beam of 26.5m, can be accommodated. As the berths are approached through Khawr al Bighal, see the Abu Zaby port description in paragraph 15.15 for regulations and approach information.

Pilotage is available only during daylight hours.

On arrival at the pilot station, the following information should be passed to the terminal operators:

1. Vessel's ETA at berth.
2. Arrival draft.
3. Estimated departure draft.
4. Quantity and type of cargo.
5. Vessel's maximum load or discharge rate.
6. Quantity of dirty ballast and the discharge rate.
7. Quantity of clean ballast to be pumped over the side and time required.
8. Size of the vessel's manifold.
9. Availability of reducers aboard the vessel.
10. Vessel's requirements.
11. Master's name.

Great Pearl Bank—Off-lying Oil Fields

15.17 Great Pearl Bank (25˚18'N., 54˚53'E.), the N limit of which is in depths of 35 to 40m, fills the great bight in the S part of the Persian Gulf The E limit of this extensive bank is NW of Ash Shariqah; its N boundary trends in a general W direction to Jazirat Halul, passing about 20 miles N of the island Sir Bu Nu'ayr. From Jazirat Halul, it trends NW to a position about 35 miles NNE of Ras Rakan. Most of the known pearl banks are situated S and SW of this line.

Depths on Great Pearl Bank, while irregular, average 18 to 27m, but there are depths of 37 to 46m in places; many shallow knolls, with depths of 5.5 to 16.5m, lie on the bank.

Depths change suddenly by as much as about 4 to 6m in places. Extensive reefs, with depths of 0.9 to 5.5m, are found within 45 miles of the coast, some having channels or open water inside them.

The reefs are stony or of broken coral and they show up well, except on cloudy days or when the sun is ahead. There are heavy overfalls in places, especially about 35 miles NW of Sir Bu Nu'ayr. Many islands, some close to the coast and others far offshore, lie on the banks. Some are high, many are barren, and most have a low projecting sandy point at their SE end.

With the exception of Jazirat Dalma, few have permanent inhabitants, though they are frequented by pearl boats in summer and by fishermen from the coast in winter.

Pilots may be obtained by prior arrangement from Mina Saqr, Dubayy, or Abu Zaby.

Caution.—Extreme care must be taken when a vessel is on Great Pearl Bank, for the tidal currents are strong and uncertain, and parts of the bank have not been completely surveyed. Once within the 30m depth contour, particular caution is necessary, and navigation after dark is not advisable, except along the recognized shipping routes, which are marked by lights and buoys.

Elsewhere, the safety of a vessel will largely depend on a vigilant lookout being maintained from aloft, as soundings provide little or no warning of the proximity of a reef or island.

Sir Bu Nu'ayr (Sir Abu Nu'ayr) (25˚15'N., 54˚12'E.), an uninhabited island lying about 44 miles N of Abu Zaby, consists mainly of small volcanic hills, except that its SE extremity is a very low, sandy point. The summit is a table-topped peak. Reefs encircle the island as far as 0.5 mile offshore. Boat landings can be made, on the SE side of the island during the day, with the summit bearing 285˚.

A fishing harbor, consisting of a basin dredged to a depth of 3.5m and two breakwaters, has been constructed at the SE end of the island. A light is shown from a post on each breakwater head.

Anchorage can be taken anywhere around the island but preferably inshore of the SE spit.

Fath Oil Terminal (Fateh Oil Terminal) (25˚35'N., 54˚25'E.)

World Port Index No. 48265

15.18 Fath Oil Terminal, an offshore loading terminal and oil field, extends between 13 and 24 miles N of Sir Bu Nu'ayr. Within the oil field, there are numerous wellheads and associated structures, many of which show lights and sound fog signals, together with flares, unlighted obstructions, submarine pipelines, and oil storage tanks.

A central pumping platform, lighted and equipped with a fog horn and VHF radio, contains offices for the Mooring Master. A submerged oil pipeline from the oil field is landed close NE of Dubayy, where services and facilities are available for Fath.

In the N part of the oil field is a production platform with a flare, a moored storage tanker, and three submerged oil storage tanks surmounted by a yellow, cylindrical tower. Two single point buoy moorings provide mooring berths for tankers loading crude oil.

Tides—Currents.—The range of tides is 1.5m at springs and 0.9m at neaps. Flood currents set SW and ebb currents set NE. The velocity of the tidal current is 0.5 to 1.5 knots.

Depths—Limitations.—SPM 1 is located about 3 miles ESE of the center of the production area, in 44.2m of water.

SPM 2 is located about 2 miles SW of the center of the production area, in 45.7m of water. Vessels up to 300,000 dwt, with a maximum length of 366m and a maximum draft of 30.5m, can be accommodated. Vessels of 350,000 dwt may be accepted from May until October with approval of the terminal operators.

Pilotage.—Pilotage is compulsory within the area of the Marine Terminal, indicated by a dashed line on the chart. Pilots are mooring masters, who usually board ships in the anchorage area or as arranged after radio contact with the terminal. Tugs and launches may assist in berthing.

The terminal operates 24 hours a day, 7 days a week. Ships berth both day and night. The ship's ETA should be sent not later than 72 hours before arrival at Fath Terminal via Bahrain Radio (A9M). When the ship is within 60 miles of the terminal, communications should be established by VHF channel 16.

The ETA message should include the following information:

1. Vessel's name.
2. Qquantity of cargo required.
3. Mmaximum loading rate.
4. Deballasting time.
5. Size of hose connections.
6. If vessel is proceeding to any ports prior to Fath.
7. Any delays expected.

The vessel's name and ETA should be repeated via Bahrain Radio 24 hours and 12 hours prior to arrival at Fath.

Anchorage.—Tankers awaiting a berth at the loading buoys can anchor in the designated area charted about 5 miles E of the central pumping platform. There are depths of 40 to 46m at the anchorage, which is fully exposed to the weather. Tankers should not anchor within the limits of the Fath al Janubi al Gharbi Oil Field, best seen on the chart. Ships other than those using the terminal are advised not to navigate within the oil field limits.

15.19 Az Zukum Oilfield (24˚51'N., 53˚39'E.), the limits of which are shown on the chart, encompasses an extensive shoal area known as Ruqq az Zukum (Ruqq az Zaqqum). The shoal area lies on a pearl bank on which there is a least depth of 4.2m. The bank is not marked by discoloration and soundings give little guide on approaching it.

Numerous wellheads, oilfield structures, many uncharted obstructions, and other hazards to navigation exist within and around the shoal, and are best seen on the chart. A Restricted Area whose limits are best seen on the chart encompasses the area. Only authorized vessels are permitted entry.

Mubarraz Oil Terminal (24˚26'N., 53˚31'E.)

World Port Index No. 48263

15.20 Mubarraz Oil Terminal is approached by making **Mubarraz Approach Lighted Buoy** (24˚57'N., 53˚18.7'E.) and then steering to pass close E of **Mubarraz Entry Lighted Buoy** (24˚52.5'N., 53˚18.7'E.).

Mubarraz Oil Field, containing a number of oil wellhead structures, some lighted, is located between 17 miles SE and 27 miles SSW of Ruqq az Zuqum.

A channel, with a least depth of 14.3m and marked by lighted buoys, leads W and S of Ruqq az Zukum, through the oil field, to an offshore oil loading terminal consisting of a single point mooring buoy, moored in a depth of 15.5m, about

9 miles ESE of **Halat al Mubarraz** (24˚28'N., 53˚22'E.). The maximum permitted draft is 13.5m.

A submarine pipeline is laid from the oil field to Halat al Mubarraz, where storage tanks are located. The tanks are reported to be good radar targets at a distance of 11 miles.

Tides—Currents.—The tidal range is about 1.8m. The flood tidal current sets W; the ebb tidal current sets E. The maximum velocity is about 2 knots.

Pilotage.—Pilotage, by the Mooring Master, is reported to be well advised, particularly on the first visit. Pilots board in the vicinity of Lighted Buoy No. 5; pilots also board tankers in the Waiting Anchorage, 2.5 miles NNW of Lighted Buoy No. 7.

Vessels should send their ETA 72 hours, 48 hours and 24 hours in advance through Al Bahrain. The 72-hour message should contain the following information:

1. Vessel's ETA.
2. Last and next port of call.
3. Deballasting time.
4. Qantity of cargo required.
5. Other information, as required.

A confirmation of the ETA should be made, on VHF channel 16, a few hours before arrival at Mubarraz Approach Lighted Buoy;. thereafter,a continuous listening watch should be maintained until the Mooring Master boards. The national flag of the UAE is required to be displayed while the ship is at the terminal.

Vessels will be refused berthing if they arrive with insufficient clean ballast aboard as to allow for safe maneuvering. The terminal has no facilities for the reception of dirty ballast.

Anchorage.—Tankers waiting to berth should anchor within a circular anchorage area, 1 mile in diameter, centered about 2 miles ENE of the terminal. There is a least depth of 15.5m at the anchorage. The bottom is coral with a covering of sand, poor holding ground. At least 6 shots of chain should be played out. Dry cargo vessels will anchor only as directed by Port Control via VHF radio.

The area within 1.5 miles of the Central Facilities Platform is prohibited to navigation and anchorage. No ships can anchor within 1.5 miles of the submarine pipelines.

Abu Zaby to Jabal az Zannah

15.21 An IMO-adopted Traffic Separation Scheme traversing several oilfields has been established in the waters between **Jazirat az Zarqa** (24˚53'N., 53˚04'E.) and Jazirat Das.

The approach channels for several oil berths terminate within the immediate proximity of the TSS, which also passes between Zirkuh Island and the Petroleum Loading Terminal. Vessels should navigate with particular caution while within the scheme, or near either terminus.

The coast W of Abu Zaby is low, stony desert with few, if any, distinctive features. It is entirely barren and desolate.

There are no villages, houses, or permanent residents. Reefs, on which are many low islands, lie as far as 30 miles off this coast. Numerous channels lead through the reefs and around the uninhabited islands. Local fishermen frequent the channels, which vary in their depths and require local knowledge.

The Umn Ad Dalkh Oil Field, best seen on the chart, is marked by lighted buoys. The field is located close SW of the Abu Zaby dredged entrance channel.

Bazm is the collective name given to the islands lying on **Fasht al Bazm** (24˚17'N., 53˚23'E.); the principal reef of **Jabal Ghurayn** (24˚09'N., 53˚08'E.) is a conspicuous, conical hill which appears white against a dark background of low hills.

The coast W from Jabal Ghurayn consists of low ranges of volcanic hills as far as **Jabal az Zannah** (24˚10'N., 53˚36'E.), a conspicuous peak.

15.22 Ras al Qila (24˚09'N., 52˚59'E.) is a conspicuous promontory on a low, sandy shore fronted by coral reefs extending well offshore and backed by large areas of sand flats which partly cover at HW.

Sir Bani Yas (24˚20'N., 52˚36'E.) is an island rising to volcanic hills, about 148m, high in its central part.

Qarn Zaqiq (24˚19'N., 52˚36'E.), the most conspicuous peak of Sir Bani Yas , is conical and lighter in color than the lower peaks.

Mount Stewart (24˚19'N., 52˚36'E.) is a black peak rising 0.2 mile WSW of Qarn Zaqiq. Sydney Hill, about 1 mile N of Mount Stewart, is very conspicuous when seen from W.

Jabal Buwayridah (24˚18'N., 52˚38'E.) is the high E extremity of the island. The terrain sloping to a low, sandy plain from hills on the E and W sides of the island terminates at **Ras Khudeiriyah** (24˚16'N., 52˚36'E.), the S extremity of the island.

Khawr Dasah (24˚16'N., 52˚37'E.), a small bay, provides excellent shelter for small craft. A beacon stands near the E entrance point of the bay.

Caution.—Shallower depths than charted have been reported SW of Sir Bani Yas. An unburied pipeline, which reduces charted depths by 2m, extends S from Ras Khudeiriyah.

There are many rocks, reefs, and shoals lying in the approaches to Sir Bani Yas. Only those dangers in the vicinity of the approach channels leading to the anchorages off Sir Bani Yas and Jabal az Zannah will be described.

15.23 Ghashshah (Jazirat Ghasha) (24˚25'N., 52˚39'E.) is a low, flat, rocky islet lying on extensive, partly-drying, rocky shoals.

Ayayat Ghasha, a partly-drying coral reef, lies about 1 mile SSE of Ghashshah. The wreck of a stranded tug on the reef 0.4 mile N of Ghashshah is conspicuous.

Najwat Ghasha (24˚25'N., 52˚36'E.), with a least depth of 7.3m, is a shoal usually marked by overfalls. The SW side of this shoal is marked by a lighted buoy.

Ghasha Lighted Buoy (24˚26'N., 52˚35'E.) is moored close SW of a 14.6m foul patch. It marks the pilot station area and the entrance of the channel leading to the anchorages.

The Ridge (24˚24'N., 52˚38'E.), a steep-to rocky spit with a least depth of 5.2m, is usually marked by overfalls. A lighted buoy marks the SW end of the ridge. An additional buoy marks the SW end of a 6.7m shoal lying 0.5 mile NW of The Ridge.

Bu San'ia (24˚24'N., 52˚36'E.), a shoal with depths of less than 4.3m, lies 2 miles N of Sir Bani Yas. The channel between the island and shoal is 0.5 mile wide, with a least depth of 7m.

Jazirat Yabr (24˚19'N., 52˚43'E.) is a low, sandy islet lying on a reef which extends 1.5 miles N from the islet. Rocky shoals extend W toward the channel.

Price Shoal (24˚17'N., 52˚42'E.) has a depth of 1.2m. Two patches, with depths of 1.8 and 3.6m, lie 0.5 mile and 0.2 mile NW, respectively, of the 1.2m patch. The W extremity is marked by a light with racon.

15.24 Halat al Allak (24˚14'N., 52˚41'E.), a very low, sandy islet, is marked 0.5 mile SE by a lighted white tower with red bands. Lighted buoys mark the E, W, N, and NW approaches to the islet.

Long Reef (24˚14'N., 52˚37'E.), on which there are numerous coral heads, and an extensive shoal with depths of less than 1.8m, lie between the S end of Sir Bani Yas and the N end of Jabal az Zannah.

Anchorage.—Anchorage can be taken, in 14.6m, good holding ground of clay, about 0.4 mile off the reef fringing the SE side of Sir Bani Yas, with Jabal Buwayridah bearing 008˚ and Ras al Buwaytir bearing 255˚.

Anchorage can also be taken, in 16.5m, mud and sand, with Qarn al Khabta in range 339˚ with Ras al Buwaitir, and with Ras al Khudeiriyah bearing 259˚.

Vessels should contact the local authorities before utilizing these anchorages.

15.25 Zirkuh (Jazirat Zarakkuh) (Jazirat az Zarqa) (24˚53'N., 53˚04'E.), a barren island with a prominent peak, lies about 40 miles NE of Sir Bani Yas. A light and a radio tower stand 0.3 mile N and 0.2 mile NE, respectively, of the island's 160m high summit. Two flares lie about 0.3 mile SSE of the summit.

A causeway extends about 0.5 mile SE of the E extremity of the island. At the head of the causeway is a 110m long quay, with alongside depths of 2 to 3m.

A beacon is shown from a seawater intake projecting from the shore about 0.3 mile N of the root of the causeway. The island's S end is fringed by reefs, while a sandspit also extends from it.

Two small craft piers also extend from the island's S side, but are reported to be unusable. A restricted area lies W of the island and may best be seen on the chart.

Anchorage.—A charted anchorage for small craft lies SE of the island, sheltered from the shamal, but is affected by any swell rolling in around the island. Zirku Marine should be consulted before using this anchorage.

Caution.—See the Zirkuh Petroleum Port description in paragraph 15.26 for details on regulations pertaining to vessels within the port limits. The local authorities should be consulted for the latest information on depths and approach routes before planning a voyage here, as less water has been reported in the vicinity of the jetty.

Zirkuh Petroleum Port (Az Zarqa Petroleum Port) (25˚01'N., 53˚00'E.)

15.26 Zirkuh Petroleum Port, the limits of which are best seen on the chart, consists of two Single Point Moorings, contained within a restricted area, located about 7 miles NNW of Zirkuh Island.

Winds—Weather.—See paragraph 15.1 for further information. Prevailing winds are from the NW. Strong winds from this direction can blow for up to 3 days, raising waves of up to 4.5m.

Tides—Currents.—The maximum tidal range at the port is reported to be about 1.5m. The tidal currents at the SPM's are semidiurnal, but are considerably influenced by strong winds, especially the shamal. Roughly, the flood sets SW and the ebb NE, but the turn of the tide is very slow, during which time the current direction is variable. Current rates regularly reach 1 knot.

Depths—Limitations.—Each SPM can accommodate a vessel up to 350,000 dwt, with a maximum draft of 21m.

Mooring operations are conducted in winds up to 25 knots, or seas up to 1.5m.

Aspect.—Except for the small craft jetties on the S side of Zirkuh, all of the objects mentioned on the island may be of use when navigating in the vicinity. Additionally, a lighted platform, located about 4 miles WNW of the southernmost SPM and centered within a Restricted Area, may provide a good navigational mark.

Pilotage.—Pilotage is compulsory for all ships navigating within the port limits. The pilot boards SE of the terminal, in position 25˚00.0'N, 53˚02.4'E.

Regulations.—Vessels sailing to Zirkuh Petroleum Port shall inform the Port Officer via the Port Control at least 72 hours prior to arrival stating:

1. Date and time of arrival of the vessel.
2. Nature and quantity of the cargo to be loaded or discharged.
3. Estimated deepest draft on arrival.

Vessels shall also confirm or amend this information 48 hours and 24 hours before arrival.

Vessels should confirm the final ETA to Port Control on VHF 6 hours prior to arrival at the anchorage.

All communications with the exception of terminal VHF should be sent through Bahrain Radio.

Navigation/movement is permitted within the port limits only if prior permission has been approved by the Port Authority.

All vessels at anchor shall keep a listening watch on VHF channels 16 and 64.

A restricted area, with a radius of 1 mile, exists around each SPM and around the platform from which a light is shown.

Anchorage.—Tankers East Anchorage, for tankers waiting to berth at the terminal, is situated 5 miles NE of Zirkuh as shown on the chart.

Tankers North Anchorage, also charted, for tankers delayed from sailing after loading, is situated 3.5 miles E of the terminal.

Directions.—Vessels may approach the port limits as safe navigation permits, and from any direction provided Zirku Marine is informed of the vessel's intended route.

Navigation within the vicinity of the port, and within the port limits is hampered by numerous hazards that are both above and below-water, but most particularly by the Traffic Separation Scheme which separates the SPMs from Zirkuh Island.

Special regulations are in force for vessels navigating within the port limits, and the segment of the Traffic Separation Scheme falling within the port limits, which are given below.

It should be noted that vessels are allowed to approach the terminal facilities from either Traffic Lane, but extreme caution should be exercised by all vessels doing so.

A channel for loaded tankers leaving the terminal with a maximum draft of 21m leads N for about 12 miles. It is marked by Lighted Buoy No. 1 to Lighted Buoy No. 6. The maximum speed allowed in this channel is 8 knots.

From approximate position 25˚14'N, 52˚59'E, this channel may be used by arriving vessels as the channel passes E of Jazirat Das, and W of several shoal patches.

Caution.—If using Tankers North Anchorage, care should be taken to avoid the charted wreck, with a swept depth of 23m, lying on the W limits of the anchorage area, 2.5 miles E of the terminal.

Less water than the charted depth has been reported 1.6 miles SW of the lighted platform.

Anchorage is prohibited outside of the charted anchorage areas without the permission of the Port Authority or within 0.5 mile of any submarine pipeline. The seabed in the terminal area is mostly rock, covered by loose sand, with some coral patches. The holding ground is poor.

Qarnayn (Jazirat Qarnayn) (24˚56'N., 52˚51'E.) has a low S part, but the N part of the island has a mast, several tanks, and a light.

Landing can be made at a sandy beach on the W side of the S extremity near the airfield.

15.27 Jazirat Arzanah (24˚48'N., 52˚33'E.), high at its N end, but a low plain S, is fringed by a reef except at the S end, where landing can be made.

Jazirat Arzanah lies completely within a restricted area, the limits of which define the limits of Port Arzanah and are shown on the chart.

The oil terminal was decommissioned in 1998 and is no longer in use.

Arzanah Oilfield lies between 3.5 and 7.5 miles SSW of the S extremity of the island. Ships should navigate with caution in this area.

Creagh Shoal (24˚42'N., 52˚44'E.), with a least depth of 7.3m, is marked by a light float at the N end of an atoll-like formation of irregular depths. The whole area is at least 4 miles square.

An obstruction, marked by a lighted buoy, rising 2.4m above sea level, exists 1.5 miles SE of the shoal. An obstruction, with an unsurveyed clearance depth of 7m, lies near the N end of Creagh Shoal, 12.5 miles ESE of Jazirat Arzanah.

Port of Jabal az Zannah/Ruways (Jabal Dhanna/Ruways) (24˚12'N., 52˚42'E.)

World Port Index No. 48282

15.28 The Port of Jabal az Zannah/Ruways, standing at the S extremity of the Persian Gulf in a bight SE of Sir Bani Yas, handles bulk crude and refined petroleum. The approach channel to the port, leading SE of Sir Bani Yas, passes numerous dangers, both above and below-water, which are best seen on the chart.

Winds—Weather.—See paragraph 15.1 for further information. The shamal may blow for 3 days, raising a sea up to 4.5m at the outer anchorage, and up to 2m at the Jabal az Zannah berths.

Rainfall is usually associated with thunderstorms which occur from November to May. Rainfall is rare during the remaining months, while in some years there is none at all.

Fog can occur during any month, but is most frequent in winter. Normally it clears by 1000, drifting seaward towards Sir Bani Yas. A heavy dew may be experienced throughout the year.

Tides—Currents.—The spring rise at the docks is reported to be 2m, while the average neap rise is reported to be 1m. Meteorological conditions may reduce the height of tide by up to 0.3m.

Tidal currents in the channel NE of Sir Bani Yas have been reported to reach 1.7 knots. Currents at the berths seldom exceed 0.4 knot.

Depths—Limitations.—The seaward approach route shows a least charted depth of 15.2m on the trackline, about 20 miles NNE of Sir Bani Yas. The inner deep-water route shows a least charted depth of 14m. The maximum draft should not exceed 14m plus the height of tide minus the underkeel clearance.

There are three SBM tanker loading berths, as shown on the chart, lying about 3 miles offshore NE of Jabal az Zannah. Lights equipped with a fog horn are shown from each SBM. Vessels from 100,000 to 450,000 dwt and from 250m to 377m in length can be accommodated.

Depths at the oil loading berths may be reduced by 2.5m due to seabed installations.

Coastal Tanker Jetty (Cabotage Jetty) in Ruways, an arm extending WNW from a position about midway along the trestle jetty, provides four tanker berths, with alongside depths of 8.7 to 9.4m. Vessels up to 9,100 dwt, with a length of between 70 and 118m, can be accommodated.

LNG Jetty, located about 0.3 mile SE of Liquid Products Jetty, offers an alongside depth of 15m to vessels loading LNG; the maximum loaded draft is 14.3m.

The Bulk Cargo Terminal lies about 0.9 mile SE of LNG Jetty. The berthing area is 512m long, with a depth of 11m alongside. The approach to the berth and the turning basin E of it were both dredged to a depth of 12m.

The Sulfur Jetty, constructed E of the Bulk Cargo Terminal, has 350m of berthing space extending to the SE. Vessels up to 25,000 dwt can be accommodated.

Construction Wharf, about 2 miles SE of the Bulk Cargo Terminal has five berths and a turning basin which have been dredged to a depth of 4.3m.

Cargo and ro-ro vessels, with a draft over 4.2m, anchor out to discharge cargo.

The Port of Jabal az Zannah/Ruways requests that vessels maintain the following underkeel clearances while within the port limits:

1. For vessels up to 100,000 dwt—0.9m.
2. For vessels between 100,000 dwt and 250,000 dwt—1.2m.
3. For vessels of over 250,000 dwt—1.5m.

Keeping in mind the clearances listed above, vessels may experience delays in sailing due to tidal or meteorological reduction in the water level of the port as follows:

1. For a draft of 13.4m—no delays.
2. For a draft of 13.7m—the vessel will rarely have to wait for a tide.
3. For a draft of 14m—the vessel will usually have to wait for a tide.
4. For a draft of 14.3m—the vessel will always have to wait for a tide.
5. For a draft of 14.6m—the vessel will occasionally be delayed several days.
6. For a draft of 14.9m—the vessel can expect longer delays, and will need to ascertain predicted tidal ranges.

Aspect.—Jabal az Zannah is located about 6 miles S of Sir Bani Yas. The peak rises to a height of 115m and is surrounded by smaller peaks interspersed with deep ravines. Radio masts stand close SSW of the summit, while oil tanks stand about 0.5 mile E of the same peak.

Pilotage.—Pilotage by mooring/loading master is compulsory for all vessels and is available 24 hours. The pilot boards in the Outer Anchorage Area, 1 mile S of Ghasha lighted buoy. Vessels intending to call at the port shall inform the Port Officer, via Port Control, of their ETA 72 hours prior to arrival stating:

1. Date and time of arrival of the vessel.
2. Nature and quantity of the cargo to be loaded or discharged.
3. Estimated deepest draft on arrival.

Vessels shall confirm or amend such information 48 hours and 24 hours before arrival.

Vessels should confirm their final ETA to Port Control on VHF 6 hours prior to arrival at the anchorage.

Regulations.—Vessels should maintain a continuous listening watch on VHF channel 9 when berthed.

Several restricted areas exist within the area of the port and are best seen on the chart. No vessel may enter these areas, or pass within 0.2 mile of any vessel loading or discharging petroleum products without permission. Vessels shall not immobilize their main engines while at a cargo berth, but may do so for repairs with the permission of Port Control while at an assigned anchorage berth.

Pollution regulations are in force for the port; local authorities should be consulted for details. Vessels should fly the United Arab Emirates flag from sunrise to sunset.

Anchorage.—Vessels should not anchor within 2 miles of Ghasha Lighted Buoy.

Vessels working explosives moor in a charted anchorage area located about 4 miles NNE of the Liquid Products Jetty. The anchorage area shows charted depths of 10.3 to 16.8m.

General anchorage off the port facilities is available at 20 berths spread throughout the port area, and are best seen on the chart. The anchorage berths are lettered A through T and are assigned by Port Control. The holding ground is reported as good, composed of clay and silt. Anchorage Berth A through Anchorage Berth K are holding anchorages. Anchorage Berth N through Anchorage Berth T are for Ar Ruways cargo and refinery traffic.

Directions.—The deep-draft approach to the port passes N and W of Creagh Shoal Light Float, W of Dalma Light Float, and N of Sir Bani Yas; it may best be seen on the chart. Vessels of moderate draft may leave the recommended track after clearing Creagh Shoal, steering a course directly for the Outer Anchorage Area. This route has a least depth of 12.8m, but should be used with the greatest caution.

The recommended tracks shown on the charts E of Dalma Light Float are intended for local traffic of light draft, and should not be used by seagoing vessels approaching the port.

A Deep Water Route for vessels departing the port lies E of Sir Bani Yas and may best be seen on the chart.

Jazirat Das (25˚09'N., 52˚52'E.)

World Port Index No. 48277

15.29 Jazirat Das, located about 26 miles N of Sir Bani Yas, is an island base for offshore drilling operations, plus the export of crude and related products, from several surrounding offshore oilfields.

Winds—Weather.—See paragraph 15.1 for further information. The prevailing winds are from the NW.

Tides—Currents.—The tides at Jazirat Das are diurnal, with a spring rise of 1.5m.

Depths—Limitations.—Four loading berths are available.

Berth No. 2 is a dolphin berth located about 0.5 mile NE of the S end of Jazirat Das; it can accommodate a vessel up to 168,000 dwt, with a maximum draft of 17.1m and a maximum length of 350.5m.

Berth No. 3, a Single Point Mooring (SPM) buoy, is located about 1.2 miles E of Berth No. 2. The SPM will accept vessels up to 410,000 dwt, with a maximum draft of 22m.

Berth No. 4, about 0.6 mile NNW of Berth No. 2, can handle vessels up to 100,000 dwt, with a maximum draft of 14m. The berth has two platforms, close together, seaward of a T-headed jetty. The N platform handles pelleted sulfur, while the S platform provides facilities for vessels loading LNG/LPG.

Berth No. 5, a sulfur-loading berth situated between Berth No. 2 and Berth No. 4, consists of a platform joined by a trestle jetty to the shore, with mooring dolphins on either side of the berth. Vessels of up to 8500 dwt, with a maximum length of130m and a maximum draft of 10m, may use the berth.

A small craft harbor, situated on the SE end of the island, provides berths for coastal tankers and cargo lighters.

There is a least depth of 3.8m in the approaches, while alongside depths range from 2.7 to 5.8m.

Aspect.—Jazirat Das is low in its reef-fringed S part, but rises to an elevation of 39m at its NW end. A spit, with depths of less than 7m, extends 2.5 miles S of the island's S end.

In addition to the piers off the island's E side, a small jetty, from which a flare is shown, is located at the island's NE end. Other flares are located on the island's N end, while a group of six flares in a semicircle, centered on a platform, stand about 0.5 mile N of the island.

A group of three radio masts stands on the island's NE end, while another radio mast stands on the SE end. A prominent aluminum-painted building stands at the island's S end.

Pilotage.—Pilotage is compulsory. The pilot normally boards about 2 miles ESE of Berth No. 2. Vessels arriving from

the N may be boarded in a different position, as advised by VHF radio. Vessels proceeding to Jazirat Das should radio their ETA and select information 72 hours in advance, confirming 48 hours, 24 hours, and 12 hours in advance. The vessel should also indicate which approach route she intends to use.

Anchoring vessels should radio Das Marine of the time and vessel's location when secured at berth; the vessel's position should be given as a range and bearing from Berth No. 3.

A watch should be maintained on VHF channel 12 or 16 while at anchor, informing Das Marine on that channel of the time and reason when hauling up anchor. Navigation off the E side of Jazirat Das without permission is prohibited.

Vessels must pass seaward of Berth No. 3 when transiting the area. While at the loading berth, vessels must have fire wires rigged fore and aft, keeping a pilot ladder rigged and out on the vessel's offshore side. The local authorities should be contacted for information on additional regulations.

Signals.—Three red balls by day, or three red flashing lights at night, shown from a signal mast located on the E breakwater of the small craft harbor, indicates the port is closed and no unauthorized vessels may enter.

Anchorage.—The holding ground off this island is reported to be poor. Main Anchorage, located about 5 miles SE of the signal mast, has charted depths of 13.7 to 24m. This is the usual anchorage for vessels awaiting a berth, or cargo vessels waiting for a change in the weather.

Freighter Anchorage, centered about 0.5 mile SE of the signal mast, has charted depths of 5.8 to 15.2m.

Small Craft Anchorage, N of Freighter Anchorage, shows charted depths of 6.2 to 12.6m but a dangerous wreck occupies its SW corner.

Anchorage for deep-draft vessels can be obtained with the permission of "Das Marine" about l to 1.5 miles NW of a buoy at the position 25˚11.3'N, 52˚55'E.

Vessels other than those calling at Jazirat Das are prohibited from anchoring within the port limits, the extent of which is shown on the charts.

Directions.—The whole of the southernmost bight of the Persian Gulf is littered with oil fields, shoals, and other hazards to navigation. Vessels should avoid entering the charted limits of any oil field as numerous obstructions, both above and below water, may exist in addition to what is shown on the chart.

Submarine pipelines may reduce the charted depth of water enough to pose a danger to a deeply laden vessel; therefore, vessels should maintain an adequate underkeel clearance.

Two approach routes are available to vessels wishing to trade at Jazirat Das. The N route, with a least depth of 23.8m is primarily intended for loaded tankers departing the port, but is available to arriving vessels if their draft is such that they cannot use the S route safely, provided Das Marine is informed in advance.

The Das Approach Channel is a buoyed channel best seen on the chart.

The S approach route, with a depth of at least 20m, is the recommended route for vessels loading at Jazirat Das.

Observing the Traffic Separation Scheme off Zirkuh, and keeping a good eye out for traffic, proceed as safe navigation permits to the pilot boarding ground.

Pass W of the Zirkuh Petroleum Port limits, keeping in mind the 14.3m shoal about 3 miles NE of Jazirat Qarnayn, the foul ground extending up to 4.5 miles S of Jazirat Das, and the wreck about 4 miles S of the same island.

Vessels are urged to contact the local authorities for the latest information on depths, dangers, and approach routes before planning a voyage here.

15.30 Sasan Oil Field (Sassan Oil Field) (25˚32'N., 53˚09'E.) is the larger of the two adjacent oil fields which lie between 20 and 30 miles NE of Jazirat Das. Numerous oil wellheads and associated structures, many of them showing lights and sounding fog signals, together with unlighted obstructions and submarine pipelines, exist in the oil fields.

Sasan Oil Field is the S end of a 91-mile long pipeline to Jazireh-ye Lavan. The S part of this pipeline is covered by a fixed red sector of a light on the northernmost oil rig between the bearings of 170˚ and 180˚, and 350˚ and 360˚.

Ships should navigate with caution when in the vicinity of the oil fields and are advised to keep clear of the area.

Abu Al Bukhush Oil Field is a restricted area and no vessel should enter the area without authority.

Umm Ash Shayf Oil Field (25˚13'N., 53˚14'E.) is centered approximately 15 miles ENE of Das Island. The circular limits are best seen on the chart. The pipelines, platforms, and other dangers associated with the field are enclosed in a Restricted Area.

15.31 Abu Al Bukhush Oil Terminal (25˚29'N., 53˚08'E.) (World Port Index No. 48273), in the N part of the Abu Al Bukhush Oil Field, is a lighted SPM buoy to which an oil storage tanker is secured.

Tankers up to 280,000 dwt, with a maximum draft of up to 22.5m, secure alongside the starboard side of the storage tanker to load. Berthing and unberthing is undertaken only between sunrise and 1500 to 1600 local time, depending on the season.

Pilotage is compulsory. ETA should be sent 72 hours, 48 hours, and 24 hours in advance through Bahrain. Contact terminal on VHF channel 15 or 16 when within VHF range. The mooring master boards at the anchorage.

Anchorage for tankers awaiting a berth is available at the W limit of the oil field, about 3 miles WSW of the storage tanker.

The bottom of sand and coral is reported to be poor holding ground and vessels are advised to leave the anchorage should winds exceed 35 knots.

Ships are requested not to anchor within the area indicated on the chart by dashed lines, nor within 2 miles of the pipeline.

15.32 Al Bunduq Oil Field (25˚06'N., 52˚37'E.), centered about 14 miles WSW of Jazirat Das, consists of numerous oil wellheads and associated structures, usually lighted, together with unlighted obstructions and submarine pipelines.

Ships should navigate with caution when in the vicinity of the oil field, the limits of which are shown on the charts, and are advised not to navigate within it. A submarine pipeline is laid from Al Bunduq Oil Field to Jazirat Das.

Anchorage is reported to be prohibited within 2 miles of the pipeline.

Jazirat Dayyinah (24˚57'N., 52˚24'E.) is a flat, sandy island, the highest part being a detached, black rock at its N end,

which is reef-fringed. Detached rocks, rocky patches, and shoals, best seen on the charts, lie in the vicinity of the island and on an extensive shoal E and N.

Anchorage can be taken, in 10m, about 1 mile SSE of the S end of Jazirat Dayyinah, with good shelter from the shamal.

Satah Oilfield (24˚55'N., 52˚33'E.) is centered 8.5 miles ESE of Jazirat Dayyinah. Its limits are shown on the chart. Several structures and freestanding wells within the field exhibit lights. A submarine pipeline is laid between the central platform ST-I in Satah Oil Field and the W side of Jazirat Qarnayn.

Jazirat Sharaiwah (25˚02'N., 52˚14'E.) is a 12m high islet marked by several hummocks; shallow water encircles the islet. A rock displaying a light lies 1 mile NW of the island.

Anchorage can be taken during a shamal, in 9 to 11m, sand, about 0.5 mile off the S side of the islet.

Jazirat Dalma (24˚30'N., 52˚19'E.) is formed N by a series of low hills which appears as tableland from offshore. The S part of Jazirat Dalma is low, sandy, and tapers to a spit of reclaimed land.

A small village is situated on the SW side of the island. A desalination plant and a jetty are situated on the SE side of the main part of the island. Another jetty is situated on the SW side.

Landing is easy on either side of the spit of reclaimed land at the S end of the main part of the island, but elsewhere the shores are fringed by a reef.

An offshore mooring comprising three buoys, each showing a light, is situated 0.8 mile E of the S end of the main part of the island.

An oil pipeline connects the terminal to the island.

Hair Dalma 3 (HD3) (24˚31'N., 52˚26'E.), an oil platform, marked by a light, stands 5.5 miles E of Jazirat Dalma. Mariners should keep well clear of the vicinity.

Jabal az Zannah to Ras abu Qumayyis

15.33 From Jabal az Zannah the coastal hills continue SW for about 22 miles to Jabal Wutayd, about 3 miles inland; then to **Ras as Sila** (24˚03'N., 51˚47'E.), about 28 miles W. The shore consists of the Sabkha Matti, a low, swampy and desolate salt marsh area. Most of this coast has not been adequately surveyed.

North of Ras as Sila, for about 13 miles, the coast consists of a succession of small rocky points; the land rises gradually to a level tableland in a series of small terraces. Low white cliffs continue NW about 3 miles to Ras Mushayrib; between this point and Ras al Hazrah, 11 miles NW, are two inlets, Dawhat Tallab and Dawhat al Khuwaysat, with hilly shores.

Az Zabbut (24˚08'N., 52˚26'E.), marked by a stone cairn on its summit, is a small boot-shaped island lying close off a small point.

The coast between the point and Jabal az Zannah is low, sandy, and covered by grassy hummocks. A group of hills, 50m high, are prominent, as is a mosque tower 5 miles SW of the highest hill. The area between Jabal az Zannah and Az Zabbut is filled with a shallow bank extending 10 miles offshore. Several drying reefs and rocky patches lie on the bank.

Jabal Barakah (24˚00'N., 52˚20'E.) attains a height of 64m. On the seaward side, it rises steeply from 6.1m high cliffs.

Webb Rock (24˚05'N., 52˚15'E.), with a depth of less than 1.8m, should be given a wide berth. A unlighted platform charted S of the rock was reported missing in 1991.

Ras Sarab (24˚16'N., 51˚47'E.), 13 miles N of Ras as Sila, consists of a conspicuous table-topped hill about 18m high.

The reef-fringed coast N to **Ras Mushayrib** (24˚18'N., 51˚45'E.), a very low, rocky, shelving point, is formed of low, whitish cliffs.

Yasat Ali (24˚14'N., 52˚01'E.), the largest of four small islands, is separated from the second largest island, Yasat Safli, by a boat channel 183m wide and less than 5m deep. Landing can be made on the E side of the islands.

The smallest of the four small islands lies on shoals bordering the N side of South Yasat Channel, which is 1 mile wide, with depths of 5.8 to 12.8m along the N side.

Caution.—The coastal bight between Jabal Barakah and Ras as Sila is imperfectly surveyed and foul. It is reported that abandoned oil well structures and pipes are located S of Webb Rock. Local knowledge is required to navigate in this area.

15.34 Umm al Hatab (24˚13'N., 51˚52'E.), 8 miles W of Yasat Ali, is a small island lying on a reef, with several above-water rocks off its N end. A large drying reef lies 3.5 miles NNE of Umm al Hatab.

Naitah (24˚18'N., 51˚48'E.), an islet, lies at the SE and SW ends of separate reefs. A strait about 0.5 mile wide and 6.1m deep is the only navigable passage leading N between the mainland and the extensive reefs extending NW from Yasat Ali. Naitah lies at the N edge of the strait. A 4.9m patch in the channel is passed on either side.

Ras al Hazra (24˚23'N., 51˚36'E.) is very low, rocky, and shelving. The point is fronted by rocky shoals and islets, which are best seen on the charts.

Extensive shoal areas lie N and E of Ras al Hazra. Small craft with local knowledge can transit the various passages between the dangers.

Al Qaffay (24˚35'N., 51˚43'E.) is the largest of three islands lying on shoals with several rocks and islets. The entire area between Al Qaffay and the mainland S contains innumerable dangers, which are unmarked and do not show up well.

Dawhat as Sumayrah (24˚18'N., 51˚33'E.) is a shallow bay fringed by drying sandbanks. A rocky peninsula forming the E side of the bay extends S from Ras al Hazra.

The W side of the bay trending to **Ras Sumayrah** (24˚19'N., 51˚26'E.) consists of a low, sandy plain. An isolated high hill rising 2.5 miles SSW of Ras Sumayrah is prominent from N.

Khawr Duwayhin (24˚20'N., 51˚20'E.) is a shoal bay extending W from **Ras Juwayfariyah** (24˚20'N., 51˚24'E.) and N for 10.5 miles to Ras Umm Mayub, a low point. A series of shoals, some of which have depths of less than 1.8m, lie across the bay entrance.

Jabal Tullah (24˚24'N., 51˚19'E.) comprises six high hillocks close together, with a detached hillock 0.5 mile SSW of the group. The coast between Jabal Tullah and Ras Umm Mayub is fronted by drying banks and backed by a low sandy plain rising to high hills about 1 mile inland.

Three Buttes are high, prominent hillocks rising 1 mile NW of Ras Umm Mayub; Jabal Mayub, a high hill, rises 2 miles W.

Bandar Matuq (24˚33'N., 51˚28'E.) is a bay between Jazirat Hadhba and Ras Seyad.

Anchorage, sheltered from the shamal, can be taken in the bay, in about 14m, sand and shell.

Ras abu Qumayyis to Ras abu al Mushut

15.35 Ras abu Qumayyis (24˚34'N., 51˚30'E.), low and rocky, is the E extremity of the coastal projection forming the SE side of Khawr al Udayd, an inlet.

The SE shore of the inlet consists of Jabal al Udayd, a conspicuous table-topped hill, 95m high, which is the highest peak in a range of hills backing the coast forming the inlet.

Fasht Umm Jannah (24˚34'N., 51˚33'E.), an extensive, partly drying reef, is separated from Ras abu Qumayyis by a deep, constricted channel.

Khawr al Udayd (24˚36'N., 51˚20'E.), 0.5 to 1 mile wide, extends 5 miles SW from **Ras al Udayd** (24˚38'N., 51˚24'E.), the rocky N entrance point, before it opens into a shallow lagoon. A drying bar of sand and coral, over which there is a depth of 0.9m, lies across the inlet entrance. Although there is deeper water in the channel leading into the lagoon, it is only used by fishermen in winter.

Anchorage, sheltered from the shamal, can be taken off the entrance to the inlet about 0.5 mile offshore, in depths of 7 to 9m, sand and shell, with Jabal al Udayd bearing 200˚, distant 4.5 miles.

Care should be taken to avoid the shoals fronting the inlet and also to avoid closing the shore due to the sandhills W of the anchorage appearing farther off than they are.

15.36 Niqyan Qatar (24˚53'N., 51˚32'E.) is an irregular range of white sandhills, up to 46m high, which borders the coast for 18 miles NNE of the entrance to Khawr al Udayd.

Naqa abu Anfus (24˚55'N., 51˚33'E.) is the highest hill of the range. About 3 miles farther NE, at Umm Said, the coast recedes forming Dawhat Umm Said; it then continues NE about 5 miles to **Ras al llaq** (25˚01'N., 51˚38'E.), marked by a high framework tower with a black, triangular topmark. There are numerous beacons, a gas liquids plant with three tall columns, a fertilizer plant, and a flour mill on the shore.

Fasht al Arif (24˚57'N., 51˚40'E.), which dries in patches and shows up well under most conditions, extends about 7 miles SE from the coast in the vicinity of Ras al llaq.

A bank, with a depth of 6.2m at its S end, extends 1.5 miles SSW from the S end of Fasht al Arif; sunken rocks lie up to 1 mile E of the same end.

To the SW of Fasht al Arif, the buoyed channel passes between a bank, with a depth of 7.3m, and an obstruction, with a depth of 8.8m. The E, S, and SW sides of Fasht al Arif are marked by pole beacons.

Jazirat al Ashat (24˚45'N., 51˚37'E.) are a group of three flat islets and two detached rocks. The islets are bordered by cliffs. The area around the islet is foul, with shoals of less than 1.8m lying for several miles in all directions. A light is shown from the islet.

Fasht al Udayd (24˚50'N., 51˚47'E.), an extensive, partly drying reef, is bound S and W by a sand-covered coral reef, much of which dries, but is clearly visible at all times. The channel between Fasht al Arif and Fasht al Udayd is about 4 miles wide but is reduced to a width of 2.5 miles between the 10m curves.

Halat Dalma (24˚47'N., 52˚00'E.) is an extensive shoal on which lies a large drying coral reef covered with patches of sand. The channel from Fasht al Udayd divides, with one part leading S of Halat Dalma and the other leading around the W and N edges of the reef. The channels are deep but intricate and require local knowledge.

Depths—Limitations.—Outer Channel, a narrow channel about 6 miles long, with its N end about 17 miles NNE of Ras al Ilaq, runs in a N- S direction through the coastal bank.

The fairway has a least depth of 11m, but lesser depths exist close by the recommended track in several places. Inner Channel comprises the channel SE of Fasht al Arif and the channel leading N and W to the anchorage off the oil terminal berths at Musay'id. The channel has a least reported depth of 11m and is best seen on the chart.

Umm Said (Mesaieed) (Musay'id) (24˚54'N., 51˚34'E.)

World Port Index No. 48287

15.37 Umm Said consists of several complexes devoted to a variety of cargoes.

Winds—Weather.—See paragraph 15.1 for further information.

Tides—Currents.—The mean tidal range here is 1.3m, but may vary as much as 0.6m, depending on the meteorological conditions. Tides here have a large diurnal component, resulting in only one high and low tide per day at certain times of the year. The time of HW at the port usually occurs about 1 hour after HW off the N end of Outer Channel.

In the approach to Outer Channel, tidal currents set parallel to the shore, and do not exceed a speed of 1 knot. In the S portion of the approach channel, the tidal currents generally set SSW on the flood and NNE on the ebb, and attain a rate of more than 2 knots, at times. Cross-channel sets can be expected.

Depths—Limitations.—Outer Channeland Inner Channel, which have already been described above, are the controlling factors for vessels wishing to trade here.

See the Regulations topic for required under-keel clearances and maximum permitted drafts.

To the S and W of Fasht al Arif, the port has general depths of 9.8 to 20.1m, but several shoal patches or obstructions, best seen on the chart, lie close to the recommended track.

The port consists of three separate groupings of facilities, two of which are reached by dredged channels.

The petroleum berths, positioned at the S end of the port complex, are contained within a Restricted Area, best seen on the chart. North Berth, a Single Point Mooring (SPM) buoy, will accept vessels up to 320,000 dwt. The depth at this berth is 19.6m.

South Berth, which will accept vessels of the same dwt, is a multi-point mooring requiring the use of the vessel's anchors. Vessels are restricted to a length of 274m if berthed on a NE heading, or 335m if secured on a S heading, depth 14.6m.

The Liquid Petroleum Jetty (NGL Jetty), a T-head berth with bresting dolphins devoted to LPG carriers, is located within the Restricted Area on the shore about 1 mile WNW of North Berth. The jetty has an alongside depth of 12.8m, and will

accept vessels between 168 and 290m alongside. Vessels are berthed during daylight hours only.

QAFCO Jetty 1-2, about 1.1 mile NNE of the Liquid Petroleum Jetty, has two berths, each with a length of 212m. The N berth has an alongside depth of 11.6m, while the S berth has a depth of 12.2m alongside. QAFCO Jetty 3, located 0.2 mile SW of QAFCO Jetty 1-2, has one berth for vessels of 5,000 to 40,000 dwt. General cargo is handled at the SW berth, while the NE side of the pier handles bulk ammonia and bulk urea. Bulk and bagged urea are handled at QAFCO Jetty 3

. Two petrochemical berths, located in a basin just N of QAFCO Jetty, were dredged to a depth of 13m. The berths have a total length of 510m, with an alongside depth of 13m. Both are accessed via the dredged South Approach Channel.

General Cargo Berths, Industrial Cargo Berths, and QASCO Steel Berths are approached via North Approach Channel, dredged to a depth of 12.5m.

General Cargo Berths, two in number, have a total length of 400m and lie in a basin dredged to a depth of about 10m. Both berths have an alongside depth of 10m.

QASCO Steel Berth and Industrial Cargo Berths, numbered 1 through 6 from N, handle a variety of cargoes. The berths, with a total length of 1,300m, offer alongside depths of 13 to 15m.

Aspect.—The town of Umm Said, standing about 6 miles N of the Liquid Petroleum Jetty, may be identified by a conspicuous mosque, and a radio mast standing close SW. A conspicuous group of oil tanks, with a refinery N of them, stand about 2 miles S of town.

Two flares, two radio masts, and three tall columns are visible in the vicinity of the oil berths. The flour mill standing about 1 mile NE of the Liquid Petroleum Jetty has a conspicuous tower, while 1.5 miles further NE lies the steel mill chimney.

Pilotage.—Pilotage is compulsory for vessels when berthing, unberthing, and shifting berth. Pilotage is compulsory for vessels transporting hydrocarbons. Other vessels are required to accept pilotage if more than 200m in length, have a beam of 40m or more, or a draft greater than 8m.

Pilotage for all vessels is provided by the Musay'id Port Operations Department. Vessels should send their ETA at Mushut Light Buoy (25˚15.9' N, 51˚46.7'E) 72 hours, 48 hours, and 24 hours in advance through their respective agency. The pilot boards near Mishut Lighted Buoy.

A Vessel Traffic Control Service (VTCS) operates in the approaches to the port. All vessels must obtain clearance from the VTCS before entering the channel. For calling or distress, vessels should keep a listening watch on VHF channel 16. For traffic control, a vessel should keep a listening watch on VHF channel 11.

All vessels bound for Umm Said are required to call Musay'id Traffic Control 6 hours before arrival at Mushut Lighted Buoy. Vessels are also required to report their status when within 5 miles of Mushut Lighted Buoy. In addition, a vessel should contact thrVTCS when transiting inbound or outbound on passing the following:

1. Mushut Lighted Buoy.
2. Hull Lighted Buoy.
3. SE Arif Lighted Buoy.
4. No. 1 Inner Lighted Buoy.
5. Turning Lighted Buoy.
6. Freighter Anchorage (1 mile N of Fairway Lighted Buoy).

Regulations.—The following underkeel clearances must be maintained by vessels using the Umm Said channels:

1. Vessels up to 100,000 dwt—0.9m.
2. Vessels between 100,000 to 150,000 dwt—1.2m.
3. Vessels over 150,000 dwt, and all LPG carriers—1.5m.

Bearing in mind the underkeel clearances given above, a vessel may expect a sailing delay due to draft restrictions, as follows:

1. Vessels drawing 10.4m or less may sail at any time.
2. Vessels drawing 10.7m will rarely have to consider the effects of tides.
3. Vessels drawing 11m will usually have to use a tide.
4. Vessels drawing 11.3m will always have to use a tide.
5. Vessels drawing 11.6m will occasionally be delayed several days.
6. Vessels drawing 11.9 to 12.2m can expect longer delays. The best months for vessels of this draft to trade here is June and July.
7. Vessels drawing 12.5m and over are not worth scheduling here, as on the few days the predicted height of tide indicates they could sail, meteorological conditions may well lower the height of the tides.

The safe sailing draft is calculated as 10.97m plus the height of tide in the channel minus the underkeel clearance for the vessel. Vessels utilizing berths other than the berths contained within the restricted area are allowed a maximum permitted draft of 10m at any state of tide, and a maximum permitted draft of 11.9m at high tide.

A vessel with a maximum length of 259m can be accommodated. Vessels should be ready to move under their own power while at berth. No repairs should be undertaken that would impair the vessel's ability to get underway or its firefighting ability.

Anchorage.—Large Tanker Anchorage, best seen on the chart, shows charted depths of 10.4 to 23m, over good holding ground. Freighter Anchorage, N of Large Tanker Anchorage, offers charted depths of 11 to 16.2m and good protection from NW or NE winds. Small vessels can find shelter clear of the fairway, dredged channels, restricted area, and shoals.

Caution.—Caution is advised when transiting the channel to the port, especially with a minimum underkeel clearance.

Under favorable conditions, shoals with depths of less than 11m can generally be distinguished by the lighter color of the water over them, but this color difference should not be relied upon, as some shoals appear as darker patches, while some give no indication of their presence at all.

All ships are requested to anchor in the appropriate designated anchorage area and to avoid obstructing the fairway and approach to North Berth. Ships should not approach within 1 mile of this berth, or of the pipeline connecting it to the shore, unless a pilot is aboard.

15.38 Umm al Hul (25˚05'N., 51˚37'E.), a village, in ruins and deserted, stands on the W side of a drying, landlocked inlet. A high frame tower with a black diamond topmark marks

the village. Jabal al Wakrah is a high, level-topped rocky hill about 4 miles N of Umm al Hul.

The coast in this entire area is low, sandy, and backed by stony desert.

A prohibited anchorage area enclosing a submarine gas pipeline is located N of Umm al Hul. Both are best seen on the appropriate chart.

Al Wakrah (25˚10'N., 51˚37'E.), a large, but mostly deserted town in ruins, has a minaret and fort, with a square tower and flagstaff, that are conspicuous. There is a small stone wharf fronting the tower and a drying,but sheltered, boat harbor off the N end of town. Wakrah Lighted Buoy is moored 4.5 miles E of Jabal al Wakrah.

The entire coast N and S of Al Wakrah is fronted by a continuous shoal, best seen on the charts, which extends at least 2 to 3 miles offshore.

Off-lying shoal banks, including Ruqq Quraynayn, on which lie many detached patches of lesser depths, are shown on the charts as extending parallel to the coast. A large power station stands about 2 miles N of Al Wakrah.

Ruqq Quraynayn (25˚05'N., 51˚50'E.), a shoal extending about 20 miles N from the vicinity of Fasht al Udayd, is marked NE by a light that is shown from a rubble beacon standing 19 miles E of Jabal al Wakrah. Numerous above and below-water rocks lie within a 0.5 mile radius of the beacon.

Except for the W side of this large shoal, the limits are not well-known and it should be given a wide berth. Some of the area to the S and W of the shoal is unsurveyed. Ships passing N and E of the shoal should keep in depths greater than 11m. Tidal currents in the area of the shoals set NNE to SSW.

Ras abu al Mushut to Ras Rakan

15.39 The coast extending from Ras abu al Mushut to **Al Jazirah al Aliyah** (25˚24'N., 51˚34'E.), a barren, sandy islet separated from the coast by a shallow boat channel, forms a large bay. The commercial port and capital of the State of Qatar is situated at the head of the bay.

Ras abu al Mushut (25˚16'N., 51˚37'E.) is a low, rocky point which is not easily identified from offshore. Inland from the point the land rises gradually. The trees and buildings in the village of Markhiyah, on high ground about 3 miles NW of Ad Dawhah, are conspicuous from offshore. Several lighted radio masts on the W side of the bay are conspicuous.

Al Jazirah as Safiliyah (25˚21'N., 51˚35'E.) is a low, sandy islet. Between a sandspit extending off the SW end of the islet and the coast W, the bay is very shallow. Lighted beacons mark a channel between the SW extremity of the sand spit about 2 miles SW of the islet and the shoreline about 0.4 mile farther W. Rocks and reefs lie 1.5 miles SE of the islet.

A bank, with depths of less than 5.5m, extends for 10 miles offshore between Al Aliyah and Ras abu al Mushut. Detached shoal patches are charted as far as 28 miles offshore in the approaches to Ad Dawhah.

Ras abu Abbud (25˚17'N., 51˚34'E.), a low point, is fronted by shallow reefs and rubble fishtraps. The intervening coast between the point and Ras abu al Mushut is fronted by shoals extending E and N for several miles. Ad Dawhah Beacon stands on the edge of the shoals, about 3 miles N of Ras abu al Mushut.

The approach channel to Ad Dawhah Anchorage is dredged across the shoals and leads close N of the beacon.

Ras an Nisah (25˚17'N., 51˚33'E.) is a low, rocky projection with numerous buildings nearby.

Ad Dawhah (Doha) (25˚17'N., 51˚32'E.)

World Port Index No. 48290

15.40 Ad Dawhah, the principal commercial port in Qatar, has a water area between the parallels of 25˚27'N, and 25˚21'N, and W of the meridian of 51˚40'E, as far as the HW line on the shore.

Winds—Weather.—See paragraph 15.1 for further information.

Tides—Currents.—The spring rise is 1.5m while the neap rise is 1.2m. Tidal currents off the approach channel usually set NNE and SSW with a maximum velocity of 1.5 knots, although rates of up to 3 knots have been reported (1998).

Currents in the vicinity of Ad Dawhah Beacon often set in a direction opposite to that offshore. A strong tidal stream may be experienced on entering the entrance channel. It has been reported that the set is governed by the wind direction at the time.

Depths—Limitations.—As previously stated, shoals and shoal patches encumber the entrance to the port. Shoal patches, with a least charted depth of 3.2m, lie up to 6 miles NE of Ras Abu al Mushut, while a 4.5m patch obstructs the channel about 5 miles ENE of the same point. Once within the fronting shoals, the harbor basin shows general depths of 6.1 to 12.2m, but shoals extend up to 0.8 mile off the port's shores.

Ad Dawhah Entrance Channel, 107m wide and reported (1995) dredged to 11m, leads from seaward and across the fronting shoals mentioned above. It has been reported (1997) that depths in the dredged channel are as much as 1m less than charted.

Ad Dawhah Inner Approach Channel, 110m wide and with a least reported depth of 8.5m, provides an access route for deep-draft vessels through the bay to the docks.

The main berths are located along a T-headed jetty extending NE from Ras an Nisah. The facility has nine berths, with a total berthing length of 1,176m. Berth 1 through Berth 6 have alongside depths of 6.9 to 8.6m. Berth 7, Berth 8, and Berth 9, with alongside depths of 7.5m, occupy the S inner end of the T-head.

Shell Company Jetty, with an alongside depth of 5.5m, extends from the shore about 0.3 mile SW of Ras abu Abbud.

Several other small craft piers extend from the shore, with alongside depths of 4m and less.

A small naval harbor is charted about 0.5 mile NE of Ras abu Abbud.

Vessels, with a maximum draft of 8.3m at HW, a maximum length of 183m (190m with special permission), and a maximum beam of 27.4m, could be accommodated. However, it has been reported (1995) that a vessel with a maximum draft of 8.5m was allowed into the harbor.

An underkeel clearance of 1m should be allowed for when maneuvering in the channel.

The port is undergoing extensive development. A new container terminal, with two berths, is in operation.

Aspect.—The S and W sides of the bay containing Ad Dawhah consist of low undulating desert rising to elevations of 12 to 15m a few miles inland. There is a considerable area of reclaimed land, on the W side of the bay, NW of the port.

A prominent pyramid-shaped building stands about 2 miles NW of the port area. A building, of similar construction but smaller than the former, stands close N.

A power station, with several conspicuous chimneys, stands close W of Ras abu Abbud, while a conspicuous hotel stands 0.6 mile SW of the same point.

Several water towers are visible within the port area; those which are conspicuous stand about 2 miles SW and 3.5 miles W of Ras abu Abbud.

The Ruler's Palace, a large flat square building, stands 2.5 miles W of the point; a large minaret, lit at night, stands close SE of the structure.

A conspicuous radio mast stands on the NE corner of a fort located 1 mile NW of the palace. A conspicuous lattice radio mast surmounted by two spheres, 25m in height, stands near the coast 1.5 miles SE of Ras abu Abbud.

Pilotage.—Pilotage is compulsory for all vessels, except for naval vessels, with drafts of 4.3m or more. Requests for pilots should be sent at least 24 hours in advance through Ad Dawhah radio (A7D); confirm the ETA 2 hours before arrival or when within VHF range. The pilot boards near Ad Dawhah Light Float.

Signals.—The Qatari flag shall be flown from the foremast at all times. Quarantine signals should be displayed until the vessel has been cleared.

Anchorage.—Anchorage Area B, off the harbor, is available for vessels with a draft of less than 8m, in depths of 13 to 15m, about 6 miles E of Ras abu Mushut. Vessels with a draft greater than 8m can anchor in charted Anchorage Area A, in depths of 14 to 25m. Inside the harbor, anchorage sheltered from NE winds may be taken about 2 miles N of Ras abu Abbud, in depths of 6 to 7m, over a bottom of mud and sand, good holding ground.

Directions.—Keeping to depths of not less than 11m, steer as safe navigation permits for a position about 10 miles E of Ras Abu al Mushut; then steer to pass close S of **Ad Dawhah Light Float** (25˚17'N., 54˚42'E.).

After embarking the pilot, continue on a W course until the outer lighted beacon marking the dredged channel bears NW; then steer for the channel entrance.

Jazirat Halul (25˚41'N., 52˚25'E.)

World Port Index No. 48295

15.41 Jazirat Halul is hilly and barren. The island is reef-fringed for at least 0.5 mile and shoals extend 0.5 mile farther NE and NW. Depths in the vicinity of Jazirat Halul give little warning of its proximity. Tide rips appear around the island, especially off its S side. Irregular soundings, wells, and detached shoals lie as far as 30 miles offshore N through E to S.

The presence of oil drilling rigs and their associated structures, flares, obstructions, and submarine pipelines within oil field areas, is cause for caution in and within the vicinity of oil fields as shown on the charts. Jazirat Halul is a good radar target under normal conditions at 13 miles distant.

Winds—Weather.—See paragraph 15.1 for further information.

Depths—Limitations.—There are two offshore oil-loading berths. They consist of SBM1 and SBM2, single buoy moorings, lying 2 miles and 3 miles off the SE coast of the island. In general, SBM1 will accept vessels of 550,000 dwt, with a maximum draft of 22m, although under certain circumstances a draft of 25m can be accommodated. SBM2 will take vessels of the same tonnage, with a maximum draft of 29m.

There are no facilities for dry cargo vessels; oil terminal supplies are brought in by Shell Company supply vessels to a boat harbor on the SE side of the island. The harbor has a 61m pier, with a depth of 3.4m alongside, protected by rubble breakwaters from which lights are shown.

Aspect.—The island rises to a hilly elevation of 67m, from which a light is shown. A group of oil tanks stands S of the light; a second group stands on the high ground N.

Southeast of the light there are administrative and accommodation buildings and a mosque. Near the SW end of the island there is a small meteorological station.

Pilotage.—Pilotage is compulsory for vessels proceeding to the loading berths and may be obtained in the vicinity of Lighted Buoy H1, about 1.4 miles ENE of SBM1.

If, due to adverse weather conditions or other circumstances the normal boarding ground cannot be adhered to, the pilot launch will arrange, via VHF, to meet the vessel at an appropriate place.

Vessels are required to radio their ETA at Jazirat Halul, plus select information, at least 72 hours in advance, confirming 24 hours prior to arrival. The vessel's ETA message should include the following information:

1. Quantity of cargo desired, in metric tons.
2. Loading rate.
3. Deballasting time.
4. Whether the vessel is able to load and deballast concurrently.

Vessels should contact Halul Control when within range on VHF channel 6 for anchoring and pilotage instructions.

Anchorage.—Anchorage can be taken 2.5 miles E of Jazirat Halul in a circular area 1.5 miles wide, with depths of 21 to 25m, sand.

Anchorage is prohibited in the area encompassed by the red sector of Halul summit light.

Directions.—Loaded tankers departing Jazirat Halul should steer about 058˚ from the vicinity of SBM 2, passing S of Lighted Buoy H1 and N of Lighted Buoy H2, and then pass NW of the lighted buoy marking Halul East Shoal, a 12.8m patch lying about 12 miles ENE of Jazirat Halul. Mariners should be careful not to misidentify Halul East Shoal with that of an obstruction (possibly a wreck), marked by a lighted buoy, which lies 2 miles SE of the shoal.

Caution.—Due to the existence of submarine pipelines off Jazirat Halul, the navigation of laden tankers within 3 miles S of the island, or within the vicinity of such pipelines, is prohibited.

Four oil fields lie SE and S of Jazirat Halul. They consist of Maydan Mahzam (Maydan Mahazam), 8.5 miles ESE; Bu al

Hanin (Bul Hanine), 23 miles SE; Idd ash Sharqi, 11 miles SSW; and South Dome, 20 miles SSW.

The limits of the oil fields are shown on the charts; restricted areas surround the first three fields. Within each oil field there are numerous oil wells and associated structures, lights, flares, and obstructions. Submarine pipelines are laid within each oil field and connect with Jazirat Halul.

A submarine gas pipeline is laid WSW from Idd ash Sharqi oil field to the coast of Qatar. An abandoned oil rig, located about 4 miles S of the oil field, is sunk and marked by a wreck buoy moored 0.3 mile S of the wreck.

15.42 Rostan Oil Field and Rakhsh Oil Field.— Numerous oil drilling rigs, flares, and other obstructions lie within an area known as Rostam Oil Field, about 30 miles NE of Jazirat Halul. Lights and fog signals are shown from platforms in the oil field, which is connected NNE to Jazireh-ye Lavan by a submarine oil pipeline.

The Rakhsh Oil Field, 15 miles ENE of the Rostam Oil Field, and connected to it by a submarine oil pipeline, is marked by oil drilling rigs and flares. Mariners should not navigate within the charted oil fields and should proceed with caution in their vicinity.

A pipe, which rises from a wellhead to an elevation of 1.2m, is situated about 15 miles NW of Rakhsh Oilfield.

15.43 The coast for about 10 miles N of Ad Dawhah is mostly stony desert with a few low hills, but farther N the coast becomes sandy and flat.

Dawhat al Wusayl (25˚30'N., 51˚29'E.), a cove marked by a prominent ruined fort, affords sheltered anchorage to local craft in its shallow waters. A ruined tower 3 miles W of the fort is conspicuous. A submarine cable lands 3 miles N of the cove.

Ras al Matbakh (25˚40'N., 51˚34'E.) is a point close N of the entrance to Khawr Shaqiq, which has a depth of 1.8m and is frequented by local craft. A village marked by several towers is located on rising ground at the W end of the inlet.

Ras Laffan (25˚55'N., 51˚35'E.) (World Port Index No. 48297) is very low, sandy, and marked 2.5 miles W by a conspicuous cairn. The port was built for LNG export shipping.

Depths—Limitations.—An L-shaped wharf, for the use of LNG tankers, extends NE from the point. The wharf is protected by two breakwaters; the main breakwater, to the N, is 6,000m long, while the lee breakwater, to the S, is about 5,000m long.

The approach to the wharf is through a 5,500m-long entrance channel, which is 280m wide and has been dredged to a depth of 15m. The entrance to the harbor has a restricted area, best seen on the chart, to protect installed current meters. There is a dredged depth of 13.5m alongside the wharf. A turning basin alongside the wharf is 750m in radius and is also dredged to a depth of 13.5m.

In addition, there are two 300m long dry cargo and container berths, which can accommodate vessels up to 60,000 dwt.

Pilotage.—Pilotage is compulsory for vessels of 2,000 grt and over. the vessel's ETA messages should be provided 7 days, 72 hours, and 48 hours prior to arrival. Changes of ETA of 4 hours or more should be reported during the final 24 hours before arrival. All movements within the port are controlled by Port Control using VHF channel 12. The pilot boarding position is situated 1 mile ENE of Fairway Lighted Buoy.

Anchorage.—Anchorage Area No. 1, the Western Anchorage, is centered on 25˚57'N, 51˚41'E. Anchorage Area No. 2, the Eastern Anchorage, is centered on 25˚54.7'N, 51˚46.0'E. Both may best be seen on the chart

Caution.—The coastal bank, with depths of less than 5.5m, and on which lie numerous drying patches, extends from 2 to 15 miles offshore between Ad Dawhah and Ras Laffan. Detached shoal patches are charted E of the coastal bank.

Vessels with a draft of more than 3.6m should not proceed inside the 10m curve.

Two lighted platforms, both surrounded by restricted areas best seen on the chart, stand about 40 miles NNE of Ras Laffan. The NW platform is connected to Ras Laffan by a submarine gas pipeline.

15.44 Al Shaheen Oil Field and Terminal (25˚35'N., 52˚00'E.), located about 4 miles NE of the previously described NW platform, is composed of a lighted platform and an SPM, to which a floating storage tanker is permanently moored.

Pilotage.—Pilotage is compulsory within the safety zone surrounding the SPM. Vessels should send their ETA 7 days, 5 days, 72 hours, 48 hours, and 24 hours prior to arrival. Contact should be made with the terminal, call sign "Caribbean Blue," on VHF channel 16 or 69, when within range. The pilot boards in the anchorage area.

Anchorage.—A charted circular anchorage area is located about 5.5 miles ESE of the SPM.

Caution.—Other oil fields and gas fields lie in the vicinity of Al Shaheen Oil Field and Terminal and are best seen on the chart.

Between Ras Laffan and Ras Rakan, about 24 miles NW, there are no off-lying dangers, except off the latter point. Sheltered anchorage can be taken by local craft in a small bay at 25˚57'N, 51˚25'E.

Ras Umm Hasah (26˚06'N., 51˚21'E.) is a high, rocky hillock. Al Mafjar, a village, is visible before Ras Rakan on a NE approach.

Caution.—Anchorage is not recommended within the area extending up to 50 miles offshore between Ras Laffan and Ras Rakan due to the existence of numerous well heads, gas fields, platforms, buoys, wrecks, and pipelines within the area.